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# HYGEIA

## THE HEALTH MAGAZINE

*Published by the American Medical Association*

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*September 1927*

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# HYGEIA

## THE HEALTH MAGAZINE

*Published by the American Medical Association*
*535 North Dearborn Street, Chicago*

VOLUME 5 SEPTEMBER, 1927 NUMBER 9


### CONTRIBUTORS TO SEPTEMBER NUMBER

DR. FREDERIC DAMRAU, who specializes in nervous and mental diseases, has frequently contributed to HYGEIA articles on popular topics. A. A. MOWBRAY is associated with the National Safety Council. ELIZABETH HALSEY is professor of physical education at the State University of Iowa. BERENICE LOWE, a free lance writer, has been a former contributor to HYGEIA.

DR. SAMUEL T. ORTON is the director of the Iowa State Psychopathic Hospital. DR. HENRY F. STOLL, a practicing physician of an eastern city, has made his article the basis of a radio talk. ERNEST S. CLOWES, another former contributor to HYGEIA, writes on agricultural topics.

DR. WILMER KRUSEN is the director of public health of the city of Philadelphia. DR. FRANK HOWARD RICHARDSON, child psychologist and author of many works on child training and care, has written for HYGEIA a series on the nervous child. The article in this issue concludes the series. MARY DAY WINN was for several years the managing editor of the *Delineator* and is now actively associated with the New York *Herald-Tribune* magazine and other eastern publications. JENNIE MACMASTER, R.N., who contributes the children's story this month, is a school nurse of St. Louis.

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*Contents of previous issues of* HYGEIA *can be found by consulting the Readers' Guide in your library.*

### Annual School Number

*HYGEIA readers have come to await the October issue, the annual school number, with eager interest. For parents and teachers it is brimful of readable information and for children it has stories and even articles written from their point of view. The general reader will want to keep up on progress in health education and to read the other articles not so specialized in content. Suggestive titles include the following:*

*"Off to College" by Dr. Fred N. Miller; "Simplified Health Teaching" by Maud A. Brown; "Better Breakfasts" by Ruth Peck McLeod; "The Stupid Child" by Dr. Walter Béran Wolfe; "Growing Boys" by Dr. Philip M. Stimson, and "High Blood Pressure" by Dr. Mahlon Ashford.*

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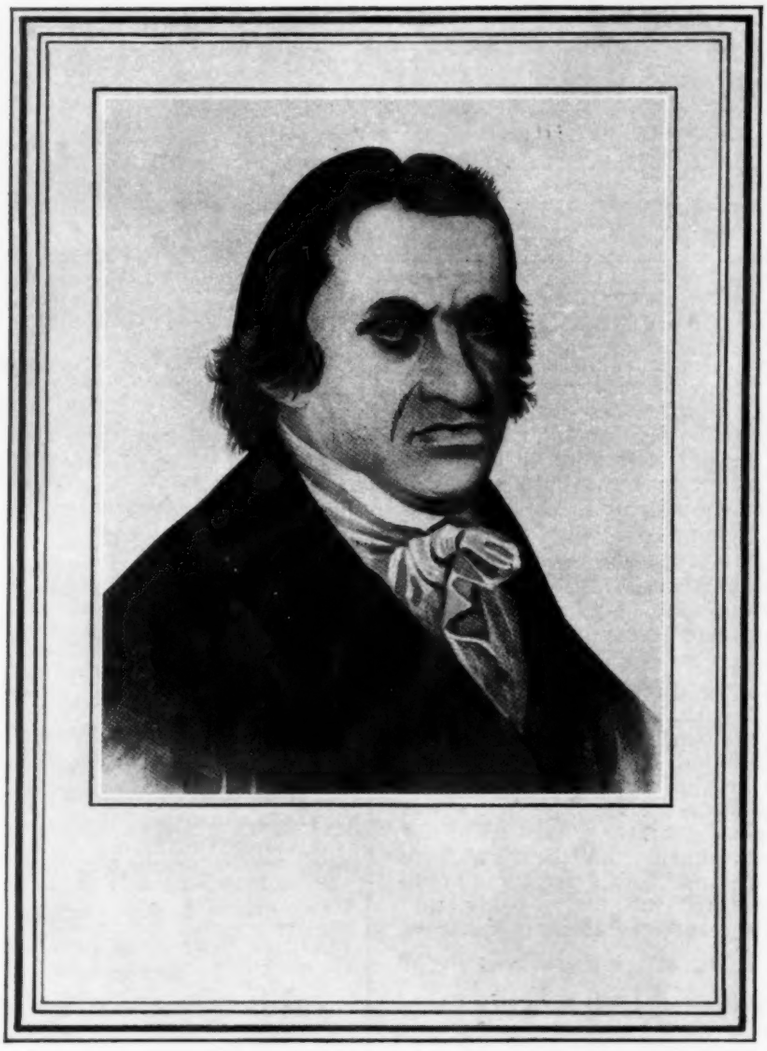


# HEROES OF AMERICAN MEDICINE

## V. Samuel Bard

*SAMUEL BARD was perhaps the most eminent American physician of his time, with the single exception of Benjamin Rush. He was born in Philadelphia in 1742. His father was an active practicing physician, who removed shortly to New York.*

*The younger Bard was educated in King's College and was graduated in 1761. At the age of 19 he went to London and Edinburgh, receiving his degree from the latter in 1765. In 1768, largely through his efforts, the medical school of King's College was established, Samuel Bard becoming professor of the theory and practice of physic. He was the youngest of the professors, being then but 26 years of age. In May, 1768, Bard emphasized in an address the importance and necessity of a hospital, which was promptly established. In 1770, the charter was granted under the title "The Society of the Hospital of the City of New York in America." This hospital had difficulties between 1782 and 1791; during this period the officers met, but the buildings were not used as a hospital.*

*During the Revolution Bard was a British sympathizer, but his standing was so excellent that he served as physician to Washington when the latter was in New York. In 1789, Bard was at the height of his fame, giving courses in midwifery, the care of diseases of women and the care of children, which were attracting national attention. Among his writings an article on "Angina Suffocativa" (diphtheria) is to be listed with early American medical classics.*

*The faculty of medicine of King's College was taken over by Columbia University in 1792, with Bard as professor of medicine and dean of the faculty. In 1816, he received the degree of Doctor of Laws from Princeton College. He died in May, 1821, aged 79 years.*

# The Folly of Vegetarianism

By

*Frederic Damrau*

IF ALL the dissatisfied human stomachs in the world could obtain leave of absence from their bodies and hold a gigantic convention, what a tale of woe they could tell! The average American's stomach would bitterly bewail the hours of overtime work; the Eskimo's, the dearth of fresh vegetables within the Arctic Circle, and the vegetarian's, the meat that might have been but never was. The final resolution unanimously adopted by the convention of outraged stomachs would be a plea for the abolition of all food fads.

The subject of diet furnishes an excellent field for superstition. Provided one is not hindered by too intimate a knowledge of established facts, he may plunge rapidly from one food fad to another with all the freedom of a fish in the Pacific Ocean.

Many persons have a firm conviction that certain foods are good for the body and others are not. The physician who must grapple with these prejudices in his efforts to prescribe a rational diet is frequently asked such questions as whether celery is good for the nerves or too much meat causes cancer.

*Woodrow Wilson, at the peace conference, was not heard to exclaim, "Take that steak away; I fear it will obtund my moral faculties."*

Modern dietetics has taught caution in the evaluation of different foodstuffs. Medical men have learned that no single article of diet can be considered intrinsically beneficial or injurious, but rather that the greatest possible variety of all foods is the most conducive to health. In other words, it is the rounded meal that best subserves the interests of the human body.

Meat has furnished the main point of attack by food faddists. The antimeat campaigns have attracted various classes of adherents; namely, the lacrimose sentimentalists who cannot bear the thought of a poor pig's anguish in the slaughter house; religious fanatics who base their vegetarian practices on some chance reference in Scripture or follow the ascetic customs of the Dark Ages; and, most of all, the uncritical readers of pseudoscientific medical literature.

Out of the scraps and discarded teachings of medical science there has arisen the practice of vegetarianism as a dietary system. But, if we trace the genealogy of vegetarianism, we find that it had its birth in religious rites and, before that, in mythology.

The first vegetarians were the Hyperboreans, those supermen living beyond the north wind; but, like the reputed benefits of vegetarianism, these folk were purely mythical. They lived in a land of perpetual sunshine, where crops thrived without rain and produce was garnered without work. Meat was never eaten. The only use of animal flesh was as an offering to Apollo, when whole hecatombs of asses were frequently offered as sacrifices.

Vegetarianism proved a complete success in the mythical land beyond the north wind. Disease was unknown and the natives lived 1,000 years and more. Indeed, abstinence from meat proved so healthful that the Hyperborean, becoming bored with life, would finally fling himself into the sea. But, alas, the Hyperboreans faded like the Greek gods, leaving only the writer of modern advertising literature for cereal foodstuffs to sing the glory of the meatless diet.

Early in the Christian era certain forms of meat came into conflict with religious beliefs. The heathen Romans were of course great patrons of the fatted calf, and the Christian reaction to this voluptuous gluttony was perhaps an unduly ascetic tendency in the dietary.

The early Christians ate meat at the feast after the Eucharist, but flesh that had been dedicated to heathen gods was strictly tabooed. Oftentimes the housewife had her doubts whether or not a given quarter of beef had been ruined by consecration to Jupiter, and thus many Christians, by becoming vegetarians, avoided the hazard of eating heathen meat.

Certain religious sects during the Middle Ages adopted vegetarianism; but their motive was self-denial, not better health. An absolute rule among the Carthusians, an order of monks founded by St. Bruno in 1084, was never to eat meat, not even in sickness. Fish was never bought, only accepted as a gift, and cheese and eggs were eaten only on Sundays and Thursdays. To make their asceticism complete, the Carthusian monks drank wine weak enough to comply with the present requirements of the Volstead Act.

Some religious sects of today practice strict abstinence from flesh. Among them are the Seventh-Day Adventists, the Trappist Order of the Roman Catholic Church and the Dadupanthi Sadus of the Hindu faith. The Salvation Army, while not strictly vegetarian in its teachings, encourages a smaller eating of flesh foods.

### *As the Vegetarian Reasons*

With the person who practices vegetarianism because of his religious belief, the doctor can have no quarrel. The motive is self-denial and perhaps the exercise of will power, and there is no question but that these traits are very much needed if one is to refrain from the joy of a juicy steak after thirty-six holes on a cold day. But when a group of lay "scientists" evolve a system of eating based on fancy rather than fact, it is time for the physician to intervene.

*One young man became a vegetarian because of his admiration for George Bernard Shaw.*

Vegetarianism as an organized fad came into being about the middle of the nineteenth century. It had its roots in ignorance of food values and superstition, never in established fact. In this present age of enlightenment it would almost seem superfluous to attack a system of eating that limits the dietary to one class of edibles. The folly of such a custom should be self-evident. But so many otherwise intelligent persons are in the habit of deriving their medical knowledge from spurious literature that the propaganda for the meatless diet has gained considerable headway.

*Stefansson, when within the Arctic Circle, lived for nine years on a meat diet and he never felt better in his life.*

The general tenet of the vegetarian is "no fish, flesh and fowl." Some of the faddists have gone further and excluded all animal products, among them milk, eggs and cheese; while the extremists abhor all cooked foods and subsist largely on ripe fruits, nuts and grains.

Vegetarianism derives its chief support from the unchecked imagination and repudiated medical literature. I have heard the argument advanced that man's teeth, like the ape's, are fashioned only for vegetable foods; but certainly it is well known that monkeys are not vegetarians and have a great liking for insects, eggs and small animals. Like sensible men, they live on a mixed diet.

The fact that meat sometimes contains dangerous microbes and larger parasites is an oft-repeated argument for vegetarianism. The germs of tuberculosis, tapeworm and the treacherous pork trichina are indeed among the dangers of raw meat. But there are two simple and efficient remedies for these conditions, without the necessity of eschewing meat altogether. In the first place proper meat inspection, such as is now practiced in spite of certain sinister rumors of graft, largely obviates the danger of infection; furthermore proper cooking destroys the parasites. The only danger from the microbe and the tapeworm lies in the eating of meat that is both bad and uncooked.

### *Uric Acid Theory Largely a Myth*

Vegetarians have alleged that meat is intrinsically poisonous, making great capital of its content of uric acid and the products of animal excretion. In this contention they have perhaps been influenced by the writings of Dr. Alexander Haig, a physician of the preceding century, who ascribed many human ills to uric acid. Dr. Haig advised a meatless but not strictly vegetarian diet in the treatment of many illnesses thought to be due to an excess of uric acid.

The uric acid theory of disease is now known to be in large part a myth. It has been established that uric acid is a harmless end product

of the body's activities. It is formed by the oxidation of chemical substances known as purins. When the body's furnaces are active, the purins are properly oxidized to form uric acid; but, when the mechanism is sluggish, uric acid is not formed and the purins remain. Thus it is the failure of the body to produce uric acid rather than the presence of this substance itself that results in gout and allied disturbances.

Red meats are rich in purins, but the normal person experiences no difficulty in handling these substances. It is only in such conditions as gout that the ban must be placed on foods of high purin content. Even then the vegetarian diet does not fulfil the needs; for many vegetables, including beans, lentils, oatmeal and asparagus, contain almost as much purins as does meat.

Loose thinkers have sought to establish a relationship between meat eating and the incidence of cancer. Their argument runs something like this: Cancer is much more prevalent among civilized than barbarous people. Civilized races eat much more meat. Hence free meat eating causes cancer. This is but another example of the *post hoc, ergo propter hoc* (after this, therefore because of it) logic that can be used to prove anything. In other words, it would be equally logical to contend that civilized persons ride in automobiles, while barbarians walk or ride horseback, and that riding in automobiles therefore causes cancer.

### *Does Meat Make Us Wild?*

From the health point of view the arguments adduced in favor of vegetarianism are as meaningless as a cigaret advertisement. Their premises come chiefly from the fertile fields of medical fiction.

*The big Airedale, the children's pet, will devour meat with an avidity that would fill a vegetarian with sorrow.*

A certain number of vegetarians base their practice on the belief that the eating of meat deadens the moral faculties. They liken the man who makes meat his staple food to the cruel carnivorous tiger and seem to believe that flesh engenders the ferocious characteristics of that animal. But it may not be amiss to remark that the cud-chewing, vegetarian bull acquires many of the ferocious traits of the carnivorous animals at the sight of a red flag.

*The cud-chewing, vegetarian bull acquires many of the ferocious traits of the carnivorous animals at the sight of a red flag.*

To attribute moral degeneration to the eating of meat is the height of the ridiculous. History does not record that the greatest moral teachers were vegetarians. As a matter of fact, Jesus, Moses, Solomon and David all ate flesh. And Woodrow Wilson, while drafting his plan for the peace conference, was not heard to exclaim, "Take that steak away! I fear it will obtund my moral faculties and lead me to rob France of a strip of Alsace-Lorraine and Italy of her beloved Trieste."

The Eskimos are among the most peaceable and gentle of all peoples, yet they live exclusively on a meat diet. The big Airedale that makes a perfect pet for the children will devour a piece of meat with such avidity as would fill the soul of a devout vegetarian with sorrow.

The rather general belief that the liberal eating of meat is injurious to health and leads to intestinal poisoning, hardening of the arteries and kidney disease is not supported by facts. As a matter of fact, the Eskimos, who subsist entirely on meat, fish and blubber, show no ill effects from their peculiar habit of diet. Vilhjalmur Stefansson, the famous arctic explorer, reported that among 600 Eskimos who ate nothing but meat for a period of three years there was not a single case of constipation.

### *Thriving on a Meat Diet*

Stefansson lived for eleven and one-half years within the Arctic Circle, during nine of which he subsisted on a meat diet exclusively. He stated that he never felt better in his life. He reached his maximum weight, was alert mentally and active physically and did not suffer from constipation. His hair became thicker and his teeth remained free from decay. Whether leading a strenuous life or resting between explorations, Stefansson felt equally well on his meat diet.

On his return to a temperate climate, Mr. Stefansson was subjected to a rigid physical examination by Dr. Clarence Lieb of New York City. The explorer was found to be in splendid condition and exhibited no ill effects from his prolonged flesh regimen. Dr. Lieb reports the cases of two other men who subsisted exclusively on meat and were not injured thereby.

Attempts have been made of late years to introduce vegetables into the Eskimos' dietary, but many of the natives who have tried this mixed diet have become prematurely old and others have suffered from constipation. The lesson to be learned from this experience is that it is poor policy to attempt brusquely to change the dietary habits of a people purely on the basis of a hard and fast rule stretched to apply to all peoples alike from the equator to the two poles.

It is a common experience that the craving for meat is greatest in winter and least in summer, and the diet of the Eskimos is consistent with this fact. The eating of considerable quantities of flesh enables one to withstand cold and strenuous exertion, and it has never been the policy of military experts to cut down on the meat of the soldier's ration. The fact that Eskimos and arctic explorers enjoy such splendid health on an exclusive meat diet presents an embarrassing question for the vegetarian who lectures on the intrinsically poisonous qualities of meat.

### *Experiments with Vegetarian Rats*

Rats eke out a miserable existence when fed on vegetables alone. They survive about half as long as their omnivorous companions and grow to only 60 per cent of the adult size.

A serious objection to the strictly vegetarian diet from the rat's point of view is the small amount of nutrition contained in vegetables as compared with other foods. Good cheese may have a food value of 2,500 calories, while a similar quantity of lettuce yields but 90 calories. In other words, a few nibbles of cheese contain more nutrition than a whole rat trap full of lettuce; to be exact, a single ounce of cheese is equivalent in food value to 1¾ pounds of lettuce. So one can readily imagine to what extent the poor little rat's stomach must be stretched if he is to derive sufficient nutrition and still live true to the doctrine of vegetarianism.

Recent experiments have shown that one of the great defects of the strictly vegetarian diet is a deficiency in vitamin A. This vitamin, so indispensable to normal growth and the integrity of the bones, is present in considerable quantity in butter, cream, milk, egg yolk and cod liver oil. Vitamin A is also present in plants, but mainly in the green parts; it is lacking in seeds and tubers. In order to obtain the proper quantity, it is necessary for the animal to consume an enormous quantity of the leaf; in fact, more than his stomach will hold.

It is true that Dr. E. V. McCollum of Baltimore has devised a purely vegetarian diet for rats on which the animals will thrive pretty nearly as well as the mixed eaters. But this diet had to be carefully calculated so as to secure just the proper proportions of leafy substance to seeds and tubers. Whenever the rats were allowed to use their own discretion from a large variety of vegetables, growth was stunted and life shortened. In other words, the rat's appetite cannot be trusted when it comes to a purely vegetable diet, although it is a safe guide when the animal eats all kinds of food. It is safe to say that the average vegetarian who follows his own judgment in his eating is not so scientifically fed as Dr. McCollum's rats.

### *Why Some Folk Become Vegetarians*

Many vegetarian societies have been organized throughout the civilized world, principally in England, the United States, Germany and France. They have endeavored to spread their propaganda by means of lectures and various publications devoted to the promotion of the fad. Vegetarian restaurants, too, may be found.

In some quarters of the globe the population is vegetarian by necessity, not choice. For example, in parts of China and Japan, poverty and overcrowding are so great that only a small amount of meat, fish, poultry or eggs can be obtained to supplement the vegetable diet. The natives have learned the value of green leaves and will often strip the trees of their foliage in order to reinforce their supply of greens obtained from spinach, lettuce and cabbage.

A most interesting type of food faddist is the free-lance vegetarian. He has heard that some Democrat who never fails to be elected to Congress is a vegetarian and is immediately convinced that there must be a great deal to vegetarianism after all.

I am acquainted with a young man who became a vegetarian because of his admiration for George Bernard Shaw. One day he happened to read a report that his favorite playwright was a vegetarian, an atheist and an Irishman. Then my acquaintance promptly made a resolution to eat no meat and severed connections with his church. He would have become an Irishman, too, had he not been born in Greenwich Village.

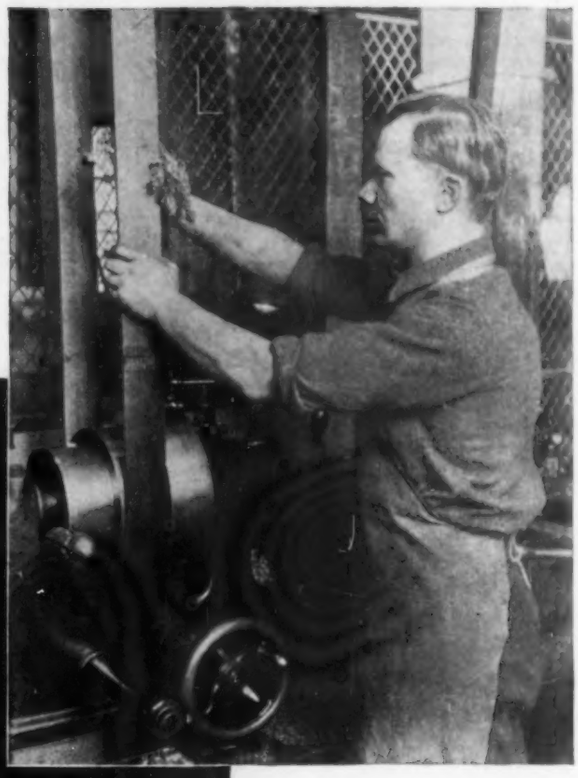
Vegetarianism worked well for four months. Then came an attack of appendicitis. It was purely a coincidence, but my friend now eats meat three times a day.

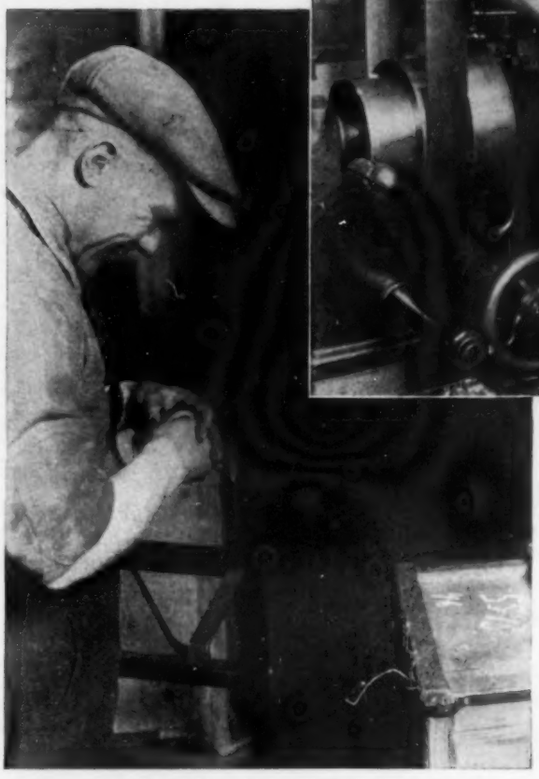
Free thinking has its advantages, but the man who persists in adhering to private opinions that are entirely at variance with established facts adds nothing to human knowledge and causes himself a great deal of unnecessary privation. Intelligent men may differ with regard to food values, but the person who makes the sweeping assertion that all animal foods are injurious is simply airing his lack of technical knowledge.

Vegetarianism is nothing more than a burlesque on dietetics. The vegetarian lecturer resembles a clown strutting about in a college president's cap and gown.

# Safety in the Shop

By
A. A. Mowbray
of the
National Safety Council





*The wise worker does not give scratches a chance to become infected.*

*Workers should stop the machine and clean a section of the belt at a time as they turn it by hand.*

MOST folk can remember the time when working in factories was regarded as a hazardous occupation. A missing finger was the badge of an experienced worker. Accidents were everyday occurrences. Deaths were not infrequent and injuries were common. Owners of industrial establishments were considered as heartless capitalists whose dividends were dripping with blood and whose names were cursed by widows forced to take in washing.

Today in modern workshops employment is almost as safe as working in an office, teaching school or writing novels in one's own home. A person faces almost as many hazards on the streets and highways, in public places and in residences as are found in many factories full of noisy machinery.

During the present generation employers have learned that accidents do not merely happen but are caused by circumstances over which both employers and employees have control. Once it became generally realized that accidents could be prevented, thousands of employers hastened to take steps to safeguard their plants and to show their workers how to work safely. The "grasping capitalist" began to be forgotten when workers and their families became convinced of the sincerity of his efforts. Hard-boiled employees who at first were inclined to sneer at the latest fad gradually were won over to the realization that there was something worth while connected with the safety movement.

Even the skeptical professional labor organizers finally were won over to the idea, which at first they regarded as some scheme to enable employers to evade their responsibilities, to avoid damage suits and to slow up production, suspicions that were proved to be without foundation. They began to appreciate that employers were intelligently selfish in this connection. They realized that while accidents did cost the employer real money it was the employee who was the greatest sufferer as he lost perhaps his life, a limb and wages in many cases.

A great steel corporation was noted for its accidents. When the president became convinced that these fatalities could be prevented, he enlisted his board of directors in an organized effort which, although it has cost more than $15,000,000 to install safeguards and educational methods, has netted even a greater saving than the fortune involved. Statistics compiled by the corporation show that these organized acci-

dent prevention activities have actually saved the lives of more than 46,000 men and conserved the limbs of more than 300,000 employees who would have been involved in accidents if they had continued to occur at the same rate they were taking place prior to the inauguration of the steel corporation's safety campaign.

Safety experts have demonstrated that between 75 and 90 per cent of all accidents can be prevented. Today there are numerous factories that have gone for months and even for several years without a serious injury.

Yet last year alone in industrial establishments approximately 23,000 employees were accidentally killed and millions were injured.

What is the reason? If accidents can be prevented, why do people continue to get killed and injured while employed in shops, factories and industrial plants?

There are two chief reasons. In the first place there is still a large number of employers who have not made accident prevention an integral part of their business operation. They do not realize that safety work should be regarded as a major problem, which will not be solved until systematic and organized accident prevention work receives the consideration it deserves. Most of these employers are men who operate comparatively small shops, employing less than a hundred workers. They feel they are not large enough to warrant the time and expense involved on a definite program.

*Workers should protect their hands by wearing gloves when handling metal scrap and similar materials, but should leave them off when operating machine tools.*

The average small employer does not realize that he can prevent accidents without going to prohibitive expenses, without engaging a trained safety engineer, without a great deal of fuss. He may appreciate that a factory having 10 per cent lost time saves 10 per cent in wages and gets, if those absent are suitably distributed, 10 per cent less output. These items, however, do not balance one another, as 10 per cent less output means all overhead and running costs have to be carried by 90 per cent instead of 100 per cent output.

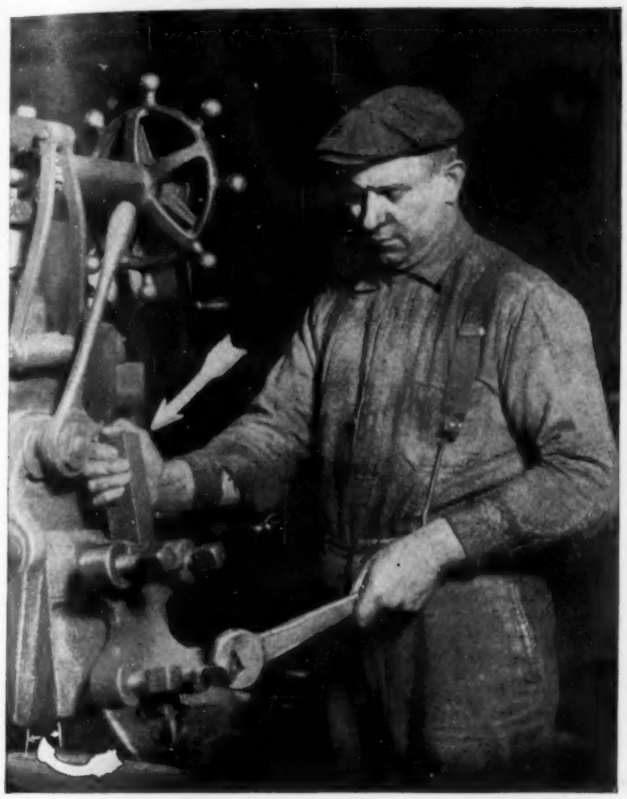
In addition, absenteeism dislocates work and throws an undue strain on the workers present, which conduces to lost time among them. If the small employer knew how to cut down absenteeism due to accidents and sickness, he would be interested in learning the details. Once the majority of these small employers adopt safety methods, the annual toll taken by accidents in industrial establishments will show a marked drop.

The second reason why accidents continue to occur in industry is because workmen continue to be careless, despite the great amount of safety literature that is presented for their edification and the installation of safeguarded machinery. With all due respect to the numerous safety devices, appliances and safeguards now on the market, the most perfect safety instrument is a careful man. Workers must be taught the supreme importance of being careful, cautious and thoughtful. Familiarity breeds contempt, is an old saying but a true one. The experienced worker grows careless as time passes. New men, unaware of the hazards attendant on their jobs, fail to appreciate the importance of constant vigilance.

These are the two big reasons why industrial accidents cost this country more than can be accurately estimated but doubtless the loss runs into billions of dollars every year.

The more than 40,000,000 men and women at work in America probably lose on an average at least eight days annually because of illness disabilities, including nonindustrial accidents, according to a distinguished writer who says

*Both men should be behind the truck pushing it.*



*Pulling up on the wrench causes the hold to swing out below. As a result the hand on the cutting tool is jammed against the tool head.*

that of the 500,000 workers who die each year, it is probable that the death of at least one half is postponable by proper medical supervision, periodic medical examination, health education and community hygiene.

Management has a definite responsibility for the prevention of industrial accidents, and labor is no less responsible. While thousands of employers and scores of labor unions are doing much to educate workers regarding the conservation of their lives, limbs and health, there is still much to be accomplished.

To serve as a clearing house of information, through which employers could exchange their accident experiences, the National Safety Council was established in 1913 as a cooperative, nonprofit, nonpartisan institution. Today that organization is furnishing thousands of employers, labor unions, industrial commissions, health officials, educators and trade associations with literature prepared by competent authorities. For the small employers, it has special data that any employer can obtain merely for the asking; for its members it prepares safety posters, motion pictures, slides, calendars, pay envelops; it issues a monthly magazine, has a million dollar library containing the most complete collection of accident prevention information in the world; circulates safe-practice pamphlets and employs a staff of trained engineers whose services are at the command of the membership.

There are eight important steps that must be taken by both large and small employers to insure success in safety work. They are:

1. Appointment of a safety director. In a small plant the employer may designate the plant superintendent or shop foreman if he cannot afford to employ a trained man especially for the purpose.
2. Analysis of accident records.
3. Meeting of operating executives.
4. Plant inspection.
5. Mechanical safeguarding.
6. General announcement to acquaint employees with safety program.
7. Educational program for the edification of the management, the foreman and the workers.
8. Engineering revision, which means the improvement or redesign of machinery, equipment and processes so as not merely to cover up hazards but to eliminate them and at the same time to increase efficiency and production.

Employment of a plant physician is advocated for large factories that can afford such assistance, for it is generally recognized that the physician in industry today is valuable in reducing lost time accidents through preventive methods. A plant doctor can give valuable advice on sanitary conditions and unsafe operating conditions as he deals with the results.

*How many things are wrong in this picture? asks the National Safety Council.*

# The New Sportswoman

By Elizabeth Halsey

Underwood

Underwood

Wide World

Underwood

THE happiest antidote for the disease known as "worker's depression" is a dose of history. So it is that the workers whose chief interest is to encourage sport as a wholesome leisure time activity for girls and women and who may easily become discouraged at the competition offered by bridge parties, sewing circles, collegiate fords, movies and other passive forms of entertainment need to turn back but one or two pages in our social history to find good cheer.

To contemplate, for a moment, the sportswoman of the gay nineties, the daring eighties, or the giddy seventies is indeed a cheerful thought.

Do you remember the pictures of the first bicycles in your family? They were solemn vehicles with a large, pompous front wheel and a busy but unobtrusive little trailer coming along for balance. Grandfather, standing alongside, was very solemn as one must be to mount to such a height and assume personal responsibility for the whole undertaking.

If the family was very liberal, there was, perhaps, a picture of Great Aunt Hester, who had been known to ride the bicycle and who had equipped herself with a bicycling costume. There she stands, a gentle feathered hat high on coils of long, smoothly combed hair; an alert little jacket with vast sleeves, and the notorious bloomer, which shattered social standards by exposing more than 2 inches of ankle and a tiny shoe.

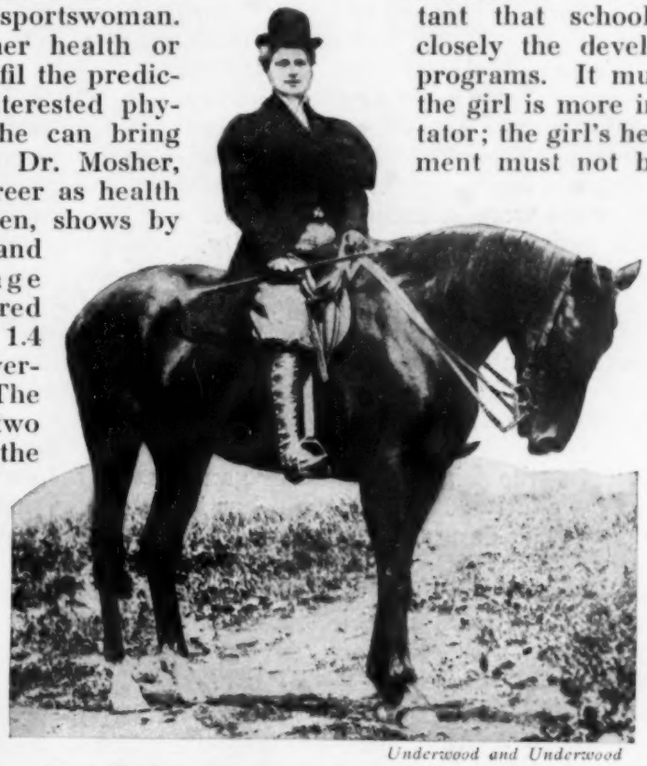
Aunt Hester was the flapper of her day. For proof, read what is expressed by her poise and the arch assurance of her glance. It is the same theme (subdued to a pianissimo, of course) that swells to a paean the song of our modern flapper—victory.

One victory led to another, and Aunt Hester was allowed to go to the seashore. Here she was protected by a green veil to prevent sunburn and a billowing bathing costume complete with stockings and shoes. In the afternoon, hatted, veiled and gloved, she rode behind smart-stepping fast trotters, or she may even have played a bit at croquet or archery.

But the climax of her sports career came at college. She rowed on the first crew! Disaster was prophesied and much well meant but futile advice was given by elderly physicians. Women were not meant for such things. They were too fragile to take the rough chances of sport. They would die or else develop into muscular masculine beings.

But in the teeth of extreme opposition Hester and her friends stepped blithely along. So each generation, almost each new decade has seen them enthusiastically taking up new sports. Proficiency has steadily increased, and good sense has made parallel progress toward attractive and appropriate sport clothes for women.

Other progress has marked the evolution of the modern sportswoman. So far from ruining her health or dying off in order to fulfil the predictions of gloomy but interested physicians and relatives, she can bring proof of development. Dr. Mosher, who has had a long career as health adviser of college women, shows by her statistics on height and weight that the average freshman girl who entered college in 1920 was 1.4 inches taller than the average freshman in 1891. The age and race of the two groups were practically the same. Dr. Mosher says that possible causes of this increase are more general physical activity, outdoor life and sensible clothing.



Underwood and Underwood

*Aunt Hester was so modern and so shameless that she actually rode astride.*

Is there, then, nothing to alarm the most conservative about this widespread interest and participation in sports and games of all kinds?

Yes, I think there is a possible danger, which the sportswomen of the past generation did not have to meet. In their day nice girls did not play games in public, but the modern girl is sometimes exploited through her very freedom. Bathing beauties and traveling basketball teams are often promoted by a misguided chamber of commerce as a profitable advertisement for an otherwise undistinguished community. It is also true, although almost laughable, that some industrial concerns make a point of hiring youngsters who are reported to be promising athletes. They also employ some man as trainer, who is usually only too eager to develop a rough and ready team of young wild cats. Dressed up in scant but gaudy uniforms decorated conspicuously by the firm's trade mark, the valiant band sets out on martial tour which parodies everything known in the way of wholesome sport and good sportsmanship.

Sometimes, unfortunately, one sees this type of pugilistic rather than sporting contest between girls representing so-called educational institutions. That is why it is important that schools and colleges watch closely the development of their sports programs. It must be remembered that the girl is more important than the spectator; the girl's health and moral development must not be sacrificed to make a Roman holiday for the crowd.

Does this mean no competition in games for girls? Not in the least. The natural love of a contest is a great thing, and loyalty to a team teaches a girl to spend her energy unselfishly for a cause higher than herself. But no one wants her to become a spendthrift in the cause of sport. A good player gives every ounce of available power to her team. She develops pluck, a joy in overcoming obstacles, strength, self-control and staying power in match games. These are all desirable qualities.

But to ask these qualities of the average high school girl in the midst of the frenzied mob scenes that usually attend interscholastic basketball games is to ask the impossible. She gets, instead, an hysterical fighting spirit, runs herself ragged, and too often comes out at the end of the season with a damaged heart and other disabilities. Competition need not be carried to this crazy excess. If wisely planned and administered it can be used to excellent advantage.

One of the finest forms of competition in sports in this country was in the national field hockey

tournament held in Boston in the fall of 1925. Amateur teams representing local associations from Boston, New York, Baltimore, Philadelphia, Fairchester and Chicago met for four days' play. The players were women whose school days were over, but whose hockey days were at their best. The officials in charge, from those who planned the program to the umpires of the games, were women trained in sports. There was a delightful spirit of friendly interest and as much jolly sociability as sensible training allowed. From the opening whistle of the tryouts for the all-American team, throughout the intercity matches, to the closing whistle of America versus Ireland there was good play, keen competition and generous sportsmanship.

In high school games it is the big unruly crowd that pushes the girls beyond the limit of their endurance. Because of this danger most progressive high schools and almost all colleges have come to prefer interclass to interscholastic games for their girls and have adopted a "sports for all" program. This may well be extended to a "sports for all time" program. If a school can pay more attention to the sports that will be carried on after graduation and provide for informal hiking clubs or outing associations that can be organized in any community, it will give a permanent service to its students.

For it is true that the new sportswoman begins young. Helen Wills, Gertrude Ederle, Suzanne Lenglen, all started their activities at an early age. Moreover the modern girl is interested in more than one activity. She plays team games in school and college and learns loyalty, unselfishness and all the matter of fact give and take of group activity. In vacations her interest turns to individual sports—swimming, tennis, golf, riding—so that she can find recreation in almost any environment.

Not only does the new sportswoman begin her games even before her teens, but she keeps up her interest and participation well past middle age. It is, perhaps, not too much to say that this interest will contribute to an abundance of physical and mental health, a reservoir of energy on which she may draw for strength in the everyday round and in all the crises of life.

*Underwood and Underwood*

*Twenty-five years ago today: The Smith cousins held their annual picnic at the James Smiths' Tuesday. The young ladies participated in a game of ball.*

# Home *from the* Hospital *with the* New Baby

*When Junior and his mother became used to each other's ways they were the best of friends.*

*By* Berenice Lowe

THE arrival of Gerald Knowles, Jr., was quite the most exciting event that had involved his relatives for some time. His aunt wrote with gusto the announcements that were to broadcast the news to many friends. His grandmother Knowles told every one how perfectly cunning and entirely extraordinary he was. Gerald Knowles, Sr., nearly burst with pride, and said, "It's a boy, yessir! I'm going to the hospital now to get another glimpse of the young son." The baby's mother smiled mandonna like as she gazed over the baby's head at the nurse who brought him to her. Even the nurse seemed to be sorry there were stringent rules that kept visitors from seeing the wonderful Knowles baby.

In all the excitement of the baby's arrival at the hospital, however, there was not a word said about the time when the very young man would take control of his own household. His "at home" date did not seem to matter.

Junior's advent had been so entirely successful that he and his mother left the hospital when he was 12 days old. Immediately upon his arrival in the house his outer swaddling was taken off and he was allowed to dine. All other activity in the house was stopped during this absorbing meal, and only the low words of his mother, the boastful exclamations of his father, and the flattering phrases of his grandmother could be heard above his noisy application to the matter in hand. Then his gorgeous bassinet was made ready for him and his kingship laid therein.

In the almost two weeks of his life Junior had slept in a plain little bed. Its mattress had been rather solid, almost hard, but he was used to it, and the new softness rather smothered him. These blankets were more wooly, too, and as he exercised in his effort to tell somebody that things were different, he became still warmer. For a moment he really thought he would perish. It was at this time that his grandmother lifted him and said, "Bless his itto lamikin heart. He dot some nassy das on his tummy. Ethel, you want to hold him over your shoulder just a minute after his feeding."

"I thought I did," Junior heard his mother say weakly. He did feel sorry for that kind voice that belonged to his meals, but this was so much better than the too-warm place, that he showed his content by lying quietly on the warm, solid shoulder and without waiting to count to a hundred fell asleep.

Everything was lovely after that. At 10 o'clock he was awakened and fed. Only his mother and daddy were present this time. The quiet was soothing to him and he fell asleep as soon as he was put back to bed. In fact he didn't bother a soul until 4:30 the next morning. Then he was uncomfortable. His back was tired and his throat was dry. The more he cried the more he pitied himself. He heard the voice that belonged to his meals, but had

no sympathy now except for himself. In the hour and a half of gray dawn, Junior announced that he was "at home."

During the next few days Junior's mother went through tortures. She learned that the reason he had cried so long that first morning was because he wanted a drink of water, but couldn't get it. She learned that at the hospital they had used a small nipple on a common 3 ounce bottle. She had tried to give the baby water through a hard, large nipple on a huge 8 ounce bottle. She found out that nipples need more than sterilizing to be usable; the large, hard variety needed to have an opening made with a hot needle, and all nipples were horrible to taste until they had been scrubbed with a brush and soap and water, then boiled. She learned that bottles would invariably break unless they were put on the stove in cool water and allowed to stay until the water around them had boiled several minutes. She said afterward, "It was the simple things I worried about, the things I should have known, and didn't!"

Junior's mother had no trouble bathing him. She had been taught how to do that at the hospital. But she noticed how his skin peeled, especially in the creases; it looked as if he had been burned. She thought he had been neglected at the hospital, not knowing that Junior was going through a natural process in getting used to the world. When she discovered a rash, she telephoned the doctor, and then was chagrined when told she could expect a rash on a new baby.

She had let the baby cry the allotted time, but it was a neighbor who told her to protect him against an umbilical hernia by putting a fold of gauze of twenty thicknesses or a button covered with cloth on the navel, strapping it on with two or three long strips of adhesive tape arranged X fashion. It was her friend the school nurse, happening in one day, who told her that gasoline or ether could be used to remove the adhesive tape without pain or injury.

When the baby and his mother had been home a few days, the doctor came in for a volunteer call to see how they were getting along. He saw how worn the mother looked and asked her its cause. With tears starting she said, "Oh, it's the everlasting worry about things that seem terrible to me; they generally are worries that seem silly to other people."

Then the doctor gave her some pointers. Some of the things he mentioned she had already read in bulletins or books. Many of his remarks saved her worries in the future. During the next years, when she had other babies to care for, his little lecture came back to her, comforting her.

He told her that a strange condition of baby's skin can be expected. An outer skin usually peels off. The rash that often appears resembles a measles rash; it probably comes because of change of environment, the new contacts with air, soap and water.

If babies sleep all day and cry at night, there is but one inference to draw: the baby is well, but he doesn't know daylight from dark. Give him time; he'll learn the difference. If a mother is worried about a baby's daytime crying, she should time him. A total of from one to two hours in the twenty-four is normal.

Mothers often worry about the baby's food. "Is he getting enough?" is a mother's first question. The answer is to weigh the baby before and after feedings. If the weight is increased 2 or 3 ounces, it is sufficient. As long as there is a general gain in weight and the baby sleeps, he is getting enough food and he is healthy. If the mother's milk is plentiful but is not benefiting the baby, the mother should have the milk analyzed by a local laboratory, or, lacking this, she may send a sample to the state health department at the state capital.

Vomiting is nothing to worry about in most cases. A baby's stomach is small and is easily filled. Vomiting merely indicates too much food. Doctors agree that vomiting seems natural for some babies, even though it persists for several months.

Most mothers know how to care for a baby's eyes. The common boric acid solution is not too strong for any baby's eyes. A separate piece of cotton should be used for each eye to avoid infection. Irritation is sometimes noticed the first few days. This is from medical treatment required by the state and causes no injury.

Sometimes a baby's breasts become hard and swollen. There is a fluid within which must not be pressed out.

Every mother must realize that included in her care of the baby is care of herself. Her breasts must be kept clean. They should be covered with clean pads and not allowed to touch her undergarments. She must remember to wash her hands after every performance of duty. Her nails should be short and clean so that they cannot carry infection. Perfect cleanliness about herself and her baby is the best means of keeping him well. It is the well baby that grows easily and naturally.

The mother of Gerald Knowles, Jr., soon found that taking care of a baby was not so bad after all. It was his first days at home that made her desperate. She laughs about it now.

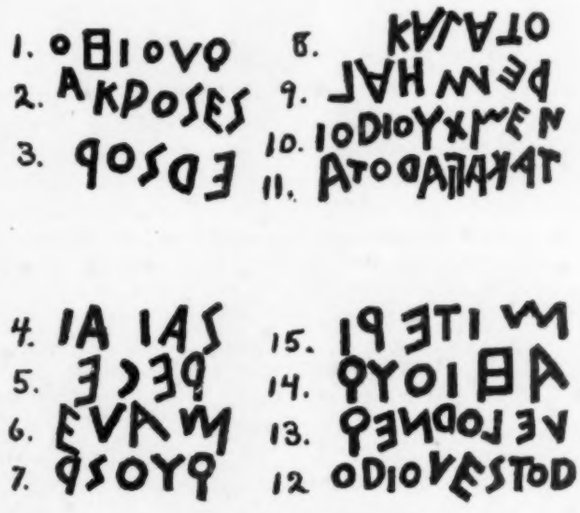
"There was a while," she says, "when I was downright homesick. I wanted my mother. It seemed as if she should come to protect me from this burden that was too much for me. But it was only the first two weeks that I felt that way. When I became used to Junior, and I suppose he became used to my ways, we were the best of friends. We have cooperated quite beautifully ever since."

# Training *the* Left Handed

*By Samuel T. Orton*

THE question of proper training of children who show a distinct tendency toward the use of the left hand is one that is encountered frequently in the schools. Many students of this problem in the past have voiced warnings against the enforced training for the use of the right hand in such children, but it is still a widespread practice among school teachers.

The problem is by no means as simple as might appear at first sight. We are accustomed to think of writing toward the right as the only normal method of writing and of any other form as bizarre or peculiar. We think of the awkwardness of the left handed, which has given rise to the use of the French term "gaucherie" for awkwardness. It is highly probable that the average left-handed person would be just as dextrous in methods adapted to his facilities as is the right-handed person.



*Copy of the inscription on the "forum stone," showing alternate direction of writing but some confusion in orientation of individual letters. (After Huelson.)*

Archeologists tell us that the earliest inscriptions in both Greek and Latin were in a form known as the bustrephedon. This is characterized by an alternate direction of the lines, one line reading toward the left and the next turning and reading toward the right. It was because of this alternate direction back and forth across the page that the name bustrephedon, which literally translated means ox turns, was assigned to this method, as it was likened to the path taken by the oxen in plowing a field.

A year ago through the courtesy of the curator of the Babylonian section of the British Museum, I examined some of the older pictograph writings on stone that are in the cabinets there and some of these also, particularly those of Hittite origin, showed the alternate direction. The earliest known Latin inscription is on the "forum stone," which stands in the Roman Forum. A copy of this taken from Huelson's book is reproduced with this article. Line 1 is running to the left, line 2 to the right, line 3 to the left, and line 4 to the right, etc.

It is particularly interesting to note here that certain letters, as for example the E and the R, which have not yet received the down stroke that differentiates the Latin R from the Greek rho, are consistently oriented in the direction of writing of a given line.

With other letters, however, this is not so consistent. For example, the M, which still retains the fifth stroke of the Greek mu, in line 6, which is running to the right, has its long stroke at the end of the letter; in line 15, which is running to the left, it has its long stroke at the beginning of the letter. The carver forms his A in most instances with a vertical line at the beginning and with the second limb slanting away from this vertical and with the cross bar slanting up in the direction of writing. This is noticeable in line 2 and line 4, in both of which the direction is toward the right. In line 11, however, which is written toward the left and in which A occurs four times, two of the A's have this form and two are reversed in direction. Apparently with regard to the A and the M the carver was in some confusion as to which way they should face.

In his use of the S, however, he apparently has come to a fixed orientation. No matter whether the line is running to the right as in line 2 and line 4, or running to the left as in line 3 and line 7, the S's consistently face toward the right. It would seem, therefore, that either the language habit or the carver's own motor

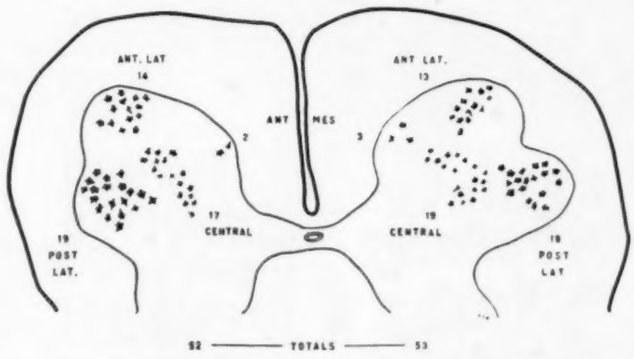
training had reached, at this time, a stage of transition from the typical bustrephedon.

Among the early italic dialects, which probably developed from roots similar to those shown in the bustrephedon, were three, the Etruscan, the Umbrian and the Oscan, in which writing was done consistently toward the left although using letters quite similar to those of the Latin. On the other hand, the dialect of Latium, the home of the Latins, was written always toward the right. We have here apparently the development of two distinctive writing directions from one common source.

The fact that the dextrad writing has carried over into our modern languages was probably much more determined by the military prowess of the Latins, who forced their language habits on the races that they conquered, than on any inherent value of the dextrad over the sinistrad method of writing.

The motor problem of training a left-handed person to write as the right-handed one does is not a simple question of training the hand. That muscular group which by its contraction causes an outward rotation of the right hand is represented in the left arm by a similar group which causes an outward rotation of the left hand. But note that these movements, while entirely similar in other ways, are in opposite directions from the midline; thus, movements caused by contraction of exactly the same muscle groups in the two arms may be said to be antitropic. This word is a convenient short cut for the expression of the difference between the right and left patterns. The right-hand glove, for example, is an antitrope of its left mate.

Not only is this true in the muscles, but a similar condition can be demonstrated throughout the nervous system that controls their action. In the spinal cord the cells that govern the movement of the muscles of the right arm lie entirely to the right side of the midline and are repeated on the other side in groups of similar numbers and similar size but with exact antitropic arrangement. Again in the brain the area that commands voluntary movement shows exact right and left duplication. Our information concerning the brain is not quite so complete as of the spinal cord but in all probability here again the clusters of nerve cells are repeated on the two sides, alike in number and size but opposite in arrangement. This is shown in the accompanying diagram.




*Projection drawing of a section of the human spinal cord showing similarity in number and grouping of cells controlling movement and their arrangement into right and left patterns.*

From this it can be seen that a nerve impulse generated in the left side of the brain will give a similar movement to one from the right side but opposite in direction. If this is applied to writing, the normal writing of the left-handed child would be not to the right with the left hand, as we attempt to train them, but an actual reversal of all of the letters and of the direction of travel; that is, true mirror writing. In other words, if we were to train the left-handed child to write with his greatest facility we would train him to write in the mirrored form.

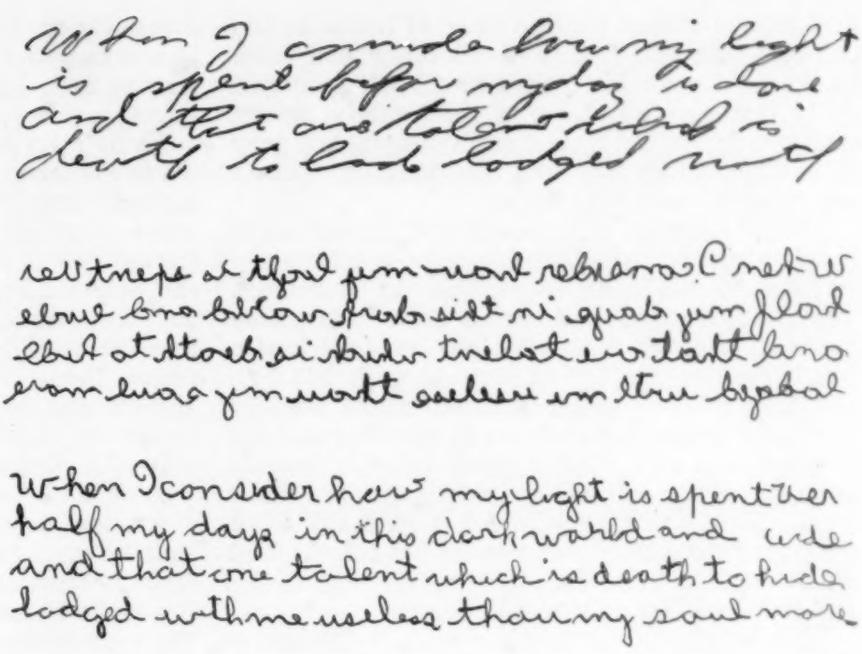
An Italian writer, Sereni, has called attention to this fact, that mirror writing of the left hand is the normal expression for that side of the body and advises those who for any reason suffer from a temporary incapacity of the right hand and who need to acquire writing with the left rapidly to attempt the mirrored form.

The problem is still more complicated, however, by the fact that probably the sensory record brought in by the eyes is also registered in duplicate and antitropic form in the brain. Such a sensory registration, if it is recallable in consciousness, is spoken of by the psychologists as an image.

A record that is not available to conscious recall may yet exist, and this sort of an impression on the nerve cells is called, by the physiologists, an engram. It is probable that engrams are established in the brain in right and left patterns but that only one is used to control writing. Which of these it will be is determined by that half of the brain that initiates the movement.

One side of the brain must obviously lead to prevent the confusion that would arise if it were possible for each hemisphere to initiate responses independently. If, for example, the right hemisphere should order an advance when the left ordered a retreat, confusion would be the result and it would seem, therefore, from *a priori* reasoning that there must be one locus that determines the response. The hemisphere that bears this responsibility is said to be the dominant hemisphere and it is that dominance that determines right or left-handedness.

Cases are found, however, in which the only apparent explanation for the symptoms as observed seems to be that the sensory engram that controls responses is in one hemisphere but the motor facility in response rests in the opposite hand.



*The upper section is a tracing of some material written by a college student from dictation. It is written with the right hand and in the usual direction.*

*The middle is of the same material, also written with the right hand but in the mirrored (sinistrad) form.*

*The lower section is the same as the middle but has been reversed in tracing to make comparison with the upper easier. This same result may be obtained by reading the middle section in a mirror.*

One of the striking cases of this sort is that of a young man who has throughout his life time suffered from a severe grade of writing disability. With effort he can write so that most of his words are recognizable, but if there is need for haste, as in taking notes in college and in propositional writing when he must think as he writes, his product is quite illegible to himself as well as to others.

### *Young Man Found Mirror Writing Easy*

In a test of his motor facility of writing in each of the four possible directions—that is, dextrad writing with both the left and right hands and sinistrad writing (mirror writing) with both the right and left hands, he showed a much greater facility in mirror writing with his right hand than in any other form. Indeed he found he could write with considerable freedom and while his handwriting, probably through lack of practice, was not mature and well formed, yet it was quite legible when viewed in the looking glass.

Above is shown the young man's writing to the right and to the left. Both were done with the right hand. As a means to make this product legible to others we suggested to him the scheme of using a piece of carbon paper upside down underneath the sheet on which he was writing. His mirrored writing was then copied in reversed form on the back of the sheet by the underlying carbon paper and on turning over the top sheet his writing appeared in the ordinary dextrad direction.

The speech mechanism is another in which apparently the nervous control is exclusively from one side of the brain. This statement rests on the large number of observations of cases of aphasia, or loss of speech, that result from the destruction of a certain part of the brain. The loss follows destruction of the proper brain area on one side only, provided it is the dominant side. A double lesion—that is, destruction in two sides of the brain—is not essential for the complete loss of speech and a similarly placed destruction in the nondominant hemisphere gives no symptoms at all.

Speech is controlled by a group of midline mechanisms; that is, levers that lie in the midplane of the body but are operated by muscles of the right and left halves. It is quite possible that these right and left pairs are so intimately linked together in the lower nervous level (the spinal cord) that they always respond as one, but there still remains the possibility that either side of the brain might control this group and if the control from above were alternate or operated together in time but toward a different end there would result a confusion in the speech responses.

### *Stuttering Cured by Change in Writing*

In a research attack on this point evidence has been acquired that seems to point to the existence of this sort of difficulty in at least some cases of stuttering. As this one-sided control is being established in childhood it is conceivable that it might be upset by training in opposition to the normal expression for that particular child. That this sometimes so operates is shown by the recorded cases of stuttering when a normally left-handed child is coerced into using the right hand for writing and of recovery when the use of the left hand is again permitted.

One such case has come under my immediate observation. A college student originally was left handed and used his left hand for the first two years in school. In the third grade his teacher insisted on the use of the right hand

and this shift was carried over at home in the use of knife and fork and all other activities. In the next year, his fourth in school, he began to stutter and has been a moderately severe stutterer from that time until his freshman year in college, when his case was first brought to our speech clinic for study.

At that time the boy considered himself right handed in everything, but when he was tested in writing in all four directions, as has been described, it was found that in spite of the nine years of practice with his right hand he had a much greater facility in writing with his left. His letters were better formed, more rapidly made, he made fewer errors in spelling and his product was of a higher grade both in content and in grammatical construction; in other words, it was much easier for him to get down on paper what was going on in his mind. The clinic advised him to make exclusive use of his left hand whenever it would serve.

This he started in October and at Christmas time his parents noted a betterment in his speech. By May his stuttering had almost entirely disappeared and he had become quite voluble.

Another case of our own series was that of a child who started to talk at the age of 1 and at the same time showed a definite tendency toward left-handedness. The parents felt that this should be combated and made efforts to train the child in the use of the right hand. The child stopped talking, did not begin again for a period of about six months and, when she did, she stuttered badly.

### *Hard to Determine Which Side Is Dominant*

Apparently certain children are from the beginning so dominantly left handed that they cannot be changed except by heroic methods. This group takes care of itself.

Others show an inclination to use the left hand but they can be changed without gross evidence of disturbance of either speech or writing. There is, however, no way of estimating what minor handicaps in the way of spelling, of writing and of facility of expression in the written form may result. In these persons the shift to the right forms a problematical handicap.

Still a third group of left-handed children can be changed, but sooner or later they show a distinctive evidence of confusion, especially by the development of stuttering in their speech or occasionally by the development of a writing disability or difficulty with written spelling. In this group the training of the right hand for writing is to be considered a hazardous undertaking.

To date there has been developed no positive way of determining which is the normal physiological dominant side in a given child although some experiments offer great promise. As a person gets older the effects of training so mask the original bent that it is often impossible to say whether a given person is naturally left handed or right handed. This has led to confusion in medical literature of cases of loss of speech due to the destruction of part of the brain.

In one instance a man who had for years written and drawn with his right hand and had given the impression to those who knew him that he was exclusively right handed suffered from hemorrhage of the brain, which paralyzed his right hand. If he had been right handed the expectation would be that this stroke would be accompanied by a certain degree at least of loss of speech. This did not result and inquiry revealed that he was originally left handed and that the facility that he had acquired in writing and in drawing was entirely the result of training.

### *Left Handed Are not Abnormal*

To what extent other symptoms such as "nervousness," clumsiness and other expressions of motor dysfunction are to be explained on the confusion of dominance that may result from mistraining is not known at present, but there is a grave danger in shifting a child with a left-handed preference to writing with the right hand. This ought never to be undertaken unless there is a much stronger reason for it than that of making the child conform to standard chirographic methods. Such methods are not standard for left-handed children. As outlined above their normal expression would be a mirrored copy of the standard.

These children are not to be looked on as abnormal but merely of a reversed mold from the right-handed ones. They will have a hard enough time in a world in which practically all tools and equipment are designed for right-handed persons without the danger of adding stuttering to their handicap. I cannot express myself too strongly in saying that the attempt to make right-handed children of naturally left-handed ones is a dangerous proceeding and a fundamental physiologic error.

*The patient.*

# *A Skeptical Patient Quizzes His Doctor on* Tuberculosis

*By Henry F. Stoll*

*Patient.*—What justification have you, Doctor, for referring to tuberculosis as a preventable and curable disease? If it is hereditary, as I have heard, you surely can't change the laws of heredity, and if it is curable, how is it that so many persons die from tuberculosis each year?

Doctor.—Well, in the first place, it isn't inherited. It is always due to a germ that gains entrance to the body by being inhaled or swallowed. For many generations, ignorance as to its cause, with consequent neglect of precautions to limit its spread, resulted in so many children being infected that until recently it was looked upon as an inheritance and consequently inevitable.

*Patient.*—But isn't it true that children at least inherit a tendency or predisposition to the disease, even if not the actual disease?

Doctor.—That was the generally accepted view for many years, but it has been shown that when infants born to tuberculous mothers are separated from their mothers many of them do not develop the disease.

Recently a careful study was made of several hundred families in a thickly populated district of New York City. It was found not only that there was no predisposition to the disease but apparently a certain amount of immunity existed when parental infection was present. For instance, a group of individuals who had no history of tuberculosis in their parents showed more active tuberculosis than another group whose parents were tuberculous. Moreover, the outlook for recovery is somewhat better when there is a paternal history of tuberculosis.

*Patient.*—Wait a minute, wait a minute! In one breath you say that you must remove children from their parents and in the next that these children have less tuberculosis.

Doctor.—It does seem like a paradox. Perhaps I can explain it. The best guarantee that one will not die from tuberculosis is to have a mild infection in early life and recover from it. Too often this early infection is so extensive that a fatality instead of a recovery results; accordingly, it is not safe to trust to vaccination by chance infection. However, much experimental work is being done, especially in France, and it may be that before many years a safe and reliable method of vaccinating children will be evolved which will confer immunity in later life.

*The doctor.*

*Patient.*—I read some years ago that every adult who died showed signs of having been infected with tuberculosis. Is this true?

DOCTOR.—The early statistics were compiled from the densely populated European cities and showed an almost universal tuberculous infection. In New York City in the thickly populated areas, nearly half the children are infected, as shown by the tuberculin test, by the fifth year, and 75 per cent by their fifteenth birthday. About 90 per cent of adults in congested centers of population acquire an infection at some time. In less densely populated communities, the percentage is much lower.

*Patient.*—How do the germs get into the body?

DOCTOR.—Chiefly from the sputum of the careless spitter and usually during the period of infancy or early childhood. The infant is infected by the careless or ignorant mother, who by her incessant cough sprays the baby and his food with germs or drops clothes or handkerchiefs soiled by sputum on the floor where the little creeper finds them. The baby's food is infected by flies that alight on it after being contaminated by the sputum.

The older child is infected outdoors by the careless consumptive who spits where and when he will. Strong sunlight kills the germ in the sputum, but unfortunately contamination often happens before this takes place.

*Patient.*—A great deal has been said during recent years about the milk supply and the use of milk from tuberculin tested cattle, whatever that may mean. I've wondered if just ordinary milk won't do? A good many thousand folk have been brought up on it.

DOCTOR.—True enough; but of the many who die from tuberculosis each year, about 8 per cent die from the bovine, or cow, form of the disease. In early infancy and childhood the glands of the neck and the bones are frequently affected by milk from tuberculous cattle.

The records of the state board of health are of interest in this connection. Connecticut was one of the early states to pass a law requiring tuberculin testing of cattle. This is a test to show whether tuberculosis is present, but legislation that precedes education always proves unpopular and so it happened that the law was repealed. For several years the nearby states dumped their tuberculous cattle into this state so that the death rate for nonpulmonary (bovine) tuberculosis rose over threefold in eighteen years. When the testing of herds and the elimination of the diseased cattle began in 1918, the death rate for nonpulmonary tuberculosis fell from 32 per 100,000 in 1918 to 6.2 per 100,000 in 1925. So much for pure milk.

*Patient.*—That's mighty interesting. I must find out if my milk man has milk from tuberculin tested herds. I have noticed that many young people break down with tuberculosis who seem to be at the height of their physical strength. If infection takes place in childhood, why does the disease develop later when one is in the prime of life?

DOCTOR.—The period from 18 to 30 years of age is the danger zone for the development of tuberculosis. This is the period of flaming youth with its excesses, dissipation, physical and mental stress. At this time the greatest adjustments of life have to be made. The individual suddenly finds himself out of the nest and on his own; he must fly or fall. These new responsibilities and cares are often the factors that break down resistance.

*Patient.*—The papers have recently had a good deal to say about tuberculosis being an industrial disease. Is it commonly caused by work?

DOCTOR.—Long hours of work in a badly ventilated room is most undesirable but, as a rule, the eight or nine hours that a man works has much less to do with his developing tuberculosis than the fourteen or sixteen hours that he isn't working. Two hours in a poolroom or bowling alley after leaving work, followed by three hours in a movie show or at a card or booze party and six or seven hours in bed with the windows closed, is the best recipe for a good case of tuberculosis.

*Patient.*—You've convinced me that tuberculosis can be prevented, but how is one to know when he has the disease if it is so insidious in its onset?

DOCTOR.—If your family doctor examines you thoroughly once a year and more often if you have progressive loss of weight and strength, pleurisy, persistent cough or afternoon fever, the disease can usually be recognized before great damage has been done. While a pulmonary hemorrhage or pleurisy is not always due to tuberculosis, it so frequently is that one should consider it as a sign of tuberculosis until, after careful study, including sputum and x-ray examinations, it is proved not to be.

*Patient.*—Very interesting, but you haven't told me how you reconcile the fact that 1,153 died of tuberculosis in this state in 1925 with your reference to it as a curable disease?

DOCTOR.—In the first place, the total number of deaths compared with the total number infected shows that the recoveries greatly outnumber the fatalities. The great majority have few or no symptoms of their infection and so are ignorant of it. One of the well known authorities has estimated that there is only one death to every 800 infections between the ages of 5 and 10 and about one to every 170 at the age of 40. The death rate in the United States from tuberculosis has fallen 52 per cent in 30 years, a truly remarkable decline. In 1918, 14.6 per cent of families given aid by social

service agencies were tuberculous families, while in 1922 only 9.6 per cent were so afflicted.

*Patient.*—Still you can't get away from the fact that many thousands of persons die each year. Why is this so if it is curable?

DOCTOR.—To a great extent, it's the old, old story of delay in making a diagnosis. The fatality from appendicitis was very high and still is, when the diagnosis is delayed until a general peritonitis is present, but when detected early and promptly operated upon it is less than 1 per cent.

In tuberculosis, too often there is delay of many months after symptoms begin before medical advice is sought. It sometimes happens that there is an additional delay of months before a thorough examination of the lungs is made, because the symptoms may be slight and misleading at first.

Then there is the economic factor. The complete rearrangement of life required, if prompt and thorough treatment is instituted, often keeps the victim at his work till his disease becomes so extensive that he is compelled to stop.

Finally there are persons who will not subject themselves to any regimen or discipline. They are for the most part the spoiled children who have grown up. They must work out their own destiny, tragic though it may be. A man's recovery more often depends on what he has in his head than on what he has in his lungs.

*Patient.*—But after all, isn't the treatment of tuberculosis really very simple? As I understand it, one should take a lot of outdoor exercise and eat as much as he can. Isn't that all there is to it?

DOCTOR.—One hundred per cent wrong! In the first place the treatment of the tuberculous individual—please bear in mind you are treating an individual not just a disease—requires a sympathetic understanding primarily of his disease but also of the sacrifices, heartaches and readjustments he is making. To this must be added a keen judgment as to the amount of rest needed, the time when exercise may be safely started and the length of time treatment should be continued.

Rest, not exercise, is the first and great principle in getting well. Absolute bed rest for a month at least, not infrequently for longer, on a veranda or in a room with the windows wide open, is the safest way to start. In the second place, he should eat only as much as he can digest comfortably; he should never stuff.

*Patient.*—But why bed rest? Won't your muscles get weak if you remain in bed a month or two? And won't your appetite leave when not exercising?

DOCTOR.—Yes, the muscles will get weak, but a little exercise will take care of that. The big idea isn't the condition of the muscles but the condition of the lungs. It is impossible completely to stop the use of the diseased lung by any simple measure, though the amount of work required can at least be cut in half when one rests quietly in bed. This lessened work allows the diseased lung to recover. Time and again I have witnessed an actively progressive tuberculosis quiet down and entirely subside when strict bed rest was instituted. As for the appetite, it is poor because of the poisons of the disease but always picks up when the activity of the disease subsides.

I know a man with a rather extensive tuberculosis who couldn't be kept quiet and consequently he was slowly growing worse. One day, while coasting, he sustained a severe fracture of his leg. The leg was in a cast for several months and by the time his leg was well his lung was healed too.

*Patient.*—Has there been any advance made in the treatment of tuberculosis during recent years?

DOCTOR.—Decidedly yes! The greatest has been the injection of air into the pleural cavity. This compresses the diseased lung, thus lessening its motion and increasing its blood supply. The amount of toxins absorbed is diminished and thus healing of the lung is promoted.

*Patient.*—Is this used on all cases?

DOCTOR.—Oh, no; only in the moderately or far advanced case that is not improving under the usual treatment. It is also used in the case of an expectant mother in whom tuberculosis is discovered. The disease can often be held in check and a healthy child secured.

Sometimes, because of extensive adhesions, the lung cannot be compressed. In such cases, if only one lung is badly diseased, an operation known as thoracoplasty is performed. This consists of removing parts of a number of ribs and allowing the chest wall to fall in, completely collapsing the diseased lung. When performed by a skilled surgeon in carefully selected cases, it will often restore to a life of usefulness an otherwise doomed individual.

*Patient.*—Are hemorrhages serious?

DOCTOR.—In the early case they are often a blessing in disguise, for they will frequently send a person to a doctor who would not go otherwise; in the far advanced case, they are often serious. One should remember the case of John Burns, who had 500 hemorrhages in seven years yet who regained his normal weight and whose lungs improved greatly.

*Patient.*—When one recovers from tuberculosis, I suppose he must get a job outdoors?

DOCTOR.—That is one of the most common bits of misinformation about tuberculosis. Unless the old job was especially hard and very unhygienic, the patient should go back to it, but should watch his step during the hours when he is not at work.

# Poison *in* Small Doses

*By*
*Ernest S. Clowes*

THE human race is facing one of the biggest wars in its history. It is not a war of man against man, but a war against insects that threaten not merely the health and the wealth of the present lord of creation but menace his food supply as well. It is a war that modern methods of quick communication have made more serious. It is a war that costs the world untold millions today and may cost as much more tomorrow.

Only the scientists on the outer picket line and the farmers and horticulturists in the front trenches know fully of the severity of this warfare. The scientists can tell us of the rapid spread of insect pests from remote quarters of the globe; the farmer can tell of the money it costs him to carry on his share of this unceasing combat, a war that probably suggested to military leaders the use of that most modern of weapons, gas.

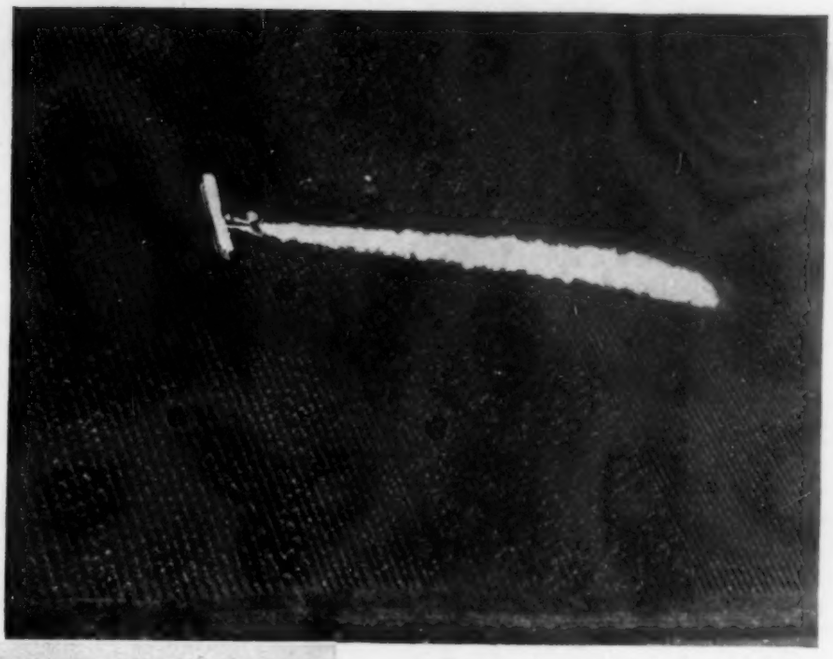
For this fight against the insect world is carried on mostly by chemical warfare; poisonous solids, liquids and gases are freely used and in huge quantities, and there lies the danger to the innocent bystander, the consumer, who seems to be in some danger of being damaged in health if not killed outright by the weapons intended for the common adversaries of the human race.

Photos by Ewing Galloway

*Lead and arsenic form the greater part of the poisons used to spray fruit and vegetables; these are deadly poisons to man and may be harmful even in the small doses consumed in eating unwashed fruit and vegetables.*

There would be no danger if the hapless insects ate up all the poison prepared for them or if the unused surplus were immediately removed from the plants on which it had been spread or from the soil into which it falls. Unfortunately neither of these things happens except in rare instances. What generally does happen is that some small amount of poison remains on the fruit or vegetable and is eaten by the consumer instead of the insect. The effect, of course, is not as serious to the man as to the bug. It takes about as many times as much poison to kill a man as the man's weight is times greater than that of the insect and so it is rare that the man feels any ill effect. But if he keeps on repeating the dose day after day and year after year it may be another story, a story the final chapter of which is impaired health or death from some obscure train of symptoms which physicians vaguely interpret

# How the Chemical Warfare against Insects Affects Our Food Supply



*Photos by Ewing Galloway*

*On these two pages are shown four modern methods of spraying crops. Each method is adapted to fighting the insect pests on certain fruits or vegetables.*

as resulting from the strain and worry of modern life.

For the poisons used against insects number among them at least two that are peculiarly deadly in that while the human body can readily absorb them it is difficult for it to get rid of them. The unsought and unwelcome immigrant cannot be deported.

These two poisons are lead and arsenic, of which the latter is more acutely dangerous and the former more subtle in its effects. Others used freely include hydrocyanic acid, which although deadliest of all is soon evaporated from the food and even if eaten in less than lethal doses is quickly eliminated from the system. Nicotine is another deadly poison used, but it is easily removed by washing.

Arsenic and lead form the greater part of the poisons used to spray fruits and vegetables, many of which are consumed raw and which therefore may carry with them the maximum quantity of poison, an amount sometimes approaching a toxic dose for man. It is safe to say that practically all the high grade fruit that comes to market has been sprayed with arsenate of lead. So has much of the lettuce, a large proportion of the celery, as well as much of the cabbage, kale and spinach. Nearly all modern truck raisers use arsenical sprays in varying amounts, sometimes on beans, peas, cucumbers, squash, beets and many less important crops. Potatoes receive in the aggregate enormous amounts of arsenates of lead and copper and although this application is made to the foliage above ground, most of it eventually washes off and penetrates the soil from which the potato itself forms in part its substance.

It is highly probable that every person who eats a fairly wide diet, including especially fresh fruits and vegetables, and who does not take some pains to see that they are carefully washed before eating, swallows a measurable quantity of arsenic and lead every day, an amount far below any dosage likely to cause symptoms of illness at the time but the ultimate effects of which may be serious.

The use of arsenic and the danger from it have recently come into public notice both here and abroad. Some years ago the health officer of Boston seized a quantity of pears on the market; these were alleged to contain enough arsenical spray residues to be dangerous to health. Last winter a flurry of dismay was caused among the apple-growers of the Pacific Northwest when a shipment of apples from that region to London was confiscated by the British authorities for the same alleged reason and the market for American apples in England was for a time badly shaken.

There was a threat at that time, as there had been years ago in another food case, of an order in council by Britain forbidding the importation of all American fruit, but this was prevented by cooperation between the British authorities, the American growers and our department of agriculture. As a result of this conference it was provided that continued importation of American fruit into Great Britain would not be interfered with provided the department of agriculture here did its utmost to see that all fruit exported was safely free of poison, and that the growers did their best to clean their fruit before shipment.

The department then sent some of its horticultural experts to the fruit regions to teach the growers how to spray their fruit with the least danger to the consumer and how to clean it before shipment. After due warning this action was followed by the seizure of many shipments in different parts of the country on which a doubtful quantity of arsenic was found. In one of the more recent cases the shippers demanded a jury trial, which was decided in favor of the government, the jury holding that the quantity of arsenic on the fruit was at least deleterious to health.

In that case, as in some others, it was found that each apple carried on the average from one-thirtieth to one-ninth grain of lead arsenate. One ninth of a grain of this substance is equivalent to about one-fiftieth grain of arsenous oxide, of which one-thirtieth grain is considered a medicinal dose; so that any person eating two such apple skins without washing them would get a fair dose of arsenic, besides a greater quantity of the even more poisonous lead.

### *May Cause Chronic Disorder*

There is no record of any death or serious acute illness from eating sprayed fruit. As to chronic illness authorities are not so sure, particularly in the case of lead. Lead is a subtle poison in small doses. For a long time it may cause no symptoms but it is not eliminated to any great extent by the body and the increasing accumulation of it finally gives rise to a great number of most serious nervous and other symptoms, which as in the case of the well-known "painters' colic" may end in death.

Chronic lead poisoning is also believed to result in serious disturbances of the cardiovascular system, such as hardening of the arteries. The greatly increased use of sprays in recent years has been paralleled by an increase in the number of deaths from that most inclusive term "heart disease," which seems to be finding a disproportionate number of victims from early middle life.

Doctors can also testify to the great prevalence of disorders of the digestive system varying in severity from tooth decay to cancer. It is interesting to note in that connection that one of the diagnostic signs of lead poisoning is found in the mouth and especially the gums and that all recent work on cancer shows that, whatever the ultimate cause may be, continued irritation is often followed by it.

Arsenic is what is known as an irritant poison, its effect in large doses being to cause violent inflammation of the digestive tract. The fact that heart and kidney diseases, as well as cancer and nervous diseases, seem to be increasing among civilized people who eat civilized foods and to be less prevalent among uncivilized people is one from which no hasty inference in this connection should be drawn since a similar argument might be used against the radio, electric light, concrete roads and vacuum cleaners, but it is one that should provoke careful inquiry.

### *Sprays Are Vital Necessity*

But why use sprays? Why not avoid all this possible danger by letting fruits and vegetables grow naturally and take their chances with the insects. That, of course, could be done but the result would be to make food relatively scarce, poor in quality and costly. Only farmers and gardeners know how unceasingly they must fight against the insects if they are to get not merely a good crop of high grade but any crop at all.

Without chemical weapons man would be decidedly at a disadvantage. The insects seem to be an increasing menace. The potato bug has spread across the continent, so has the cotton boll weevil and the San José scale. The Japanese beetle is now invading us and the European corn borer threatens the corn belt. Other insects would take all the profit out of truck crops unless sprays were used.

Furthermore, there is some contamination from arsenic and lead in the process of preparation of nonvegetable food products. Gelatin and glucose are both prepared by the use of sulphuric acid. The acid usually contains small amounts of lead and arsenic derived from its process of manufacture and minute quantities of these find their way into the finished product and so into the human system. The horticulturist and farmer is not wholly to blame for civilization's poison ration.

The most obvious remedy, if poison sprays must be used, would seem to be the preparation of some spray that would kill bugs but would contain nothing harmful to man and that at the same time would be cheap and easily applied. The department of agriculture is now at work on this problem but so far has not reported any solution. Nothing seems to take the place of the old standbys, arsenic and lead.

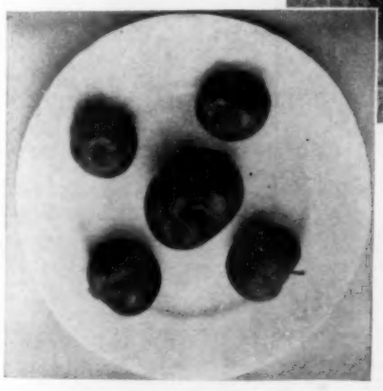
Nicotine is relatively safer for it washes off easily but it is getting so expensive that a substitute is being sought for it. Hydrocyanic acid is also relatively safe for, although most deadly when applied, it quickly loses its poisonous quality if freely exposed to sunlight and air and is wholly destroyed by cooking. But it is costly and dangerous to apply. It is used mostly in its gaseous form and there is then some danger from absorption of the gas by the product exposed to it, as it has been shown that moist foodstuffs, such as fresh fruit and meat, may retain appreciable quantities of it for days afterward. Oil emulsions, which are used against some insects, are relatively nonpoisonous and have so far as known no cumulative effects but they are not much used.

One more safeguard of the ultimate consumer from their baleful effects remains. It is quite possible to wash or wipe the food product so that practically all of the poison is removed. The fruit growers have worked out washing solutions whose use is said to be promising, although their effect on the keeping qualities of the fruit is not yet wholly determined. These washes themselves are poisonous, consisting of solutions of hydrochloric acid or of lye, but the solutions are weak and the substances are very soluble in water with which the fruit is afterward rinsed.

Methods of wiping off the spray residues on the fruit skin have also been devised and are said to work well. But the trouble is that sprays to be effective must have sticking qualities and in the nonrainfall regions of the West a good application of spray late in the season may easily remain on the fruit until harvest. There is less danger in the rainy East but even there fruit has been found which at time of marketing contained a doubtful amount of poison substance.

The final remedy for the public is always to peel fruit or else to wash or wipe it thoroughly, especially if a gray residue is visible on its surface. Vegetables, such as celery and lettuce, in which the spray may find its way down into the heart of the head should always be thoroughly washed. Cabbage is safer, for the heads are hard and dense and grow from the inside. But washing hurts nothing.

Finally, all competent authorities agree that there is nothing in the situation to be alarmed about. Fruit and vegetables are good foods and nobody is known to have been even made seriously ill from eating them. Furthermore, the growers are alarmed at the reaction already resulting from the action of health authorities and are taking all precautions to rid their products of the last traces of poison. But the health authorities see no reason why this should not be done and insist that food be as pure as possible when it comes to the consumer.



Chemicals worked almost a miracle in the protection of this apple tree. The apples at the left grew on unsprayed branches of a tree that was half sprayed. The apples on the right grew on the side of the tree that was sprayed. The tree is shown above. The owner, a fruit farmer, ran out of chemicals for this, the last tree in the orchard, and he decided to let the tree go half sprayed to see what the result would be.

*Photos by Ewing Galloway*

# A Diet Hint *from* Philadelphia

## The Traditional Home of Ice Cream

*By Wilmer Krusen*

"M-M-M, it's good!" exclaims 10 year old Mike from between his swathing bandages. "You bet!" agrees his buddy, whose thin leg lies inert and stiff in a plaster cast. The agreement and its accompanying smiles are over the servings of ice cream that these two eat so eagerly as they lie in Philadelphia General Hospital. Where is the invalid in the convalescent stage who will not agree with them! As for active folk—they are busy demonstrating their opinion of ice cream at every fountain and cafeteria.

Reid Ice Cream Company

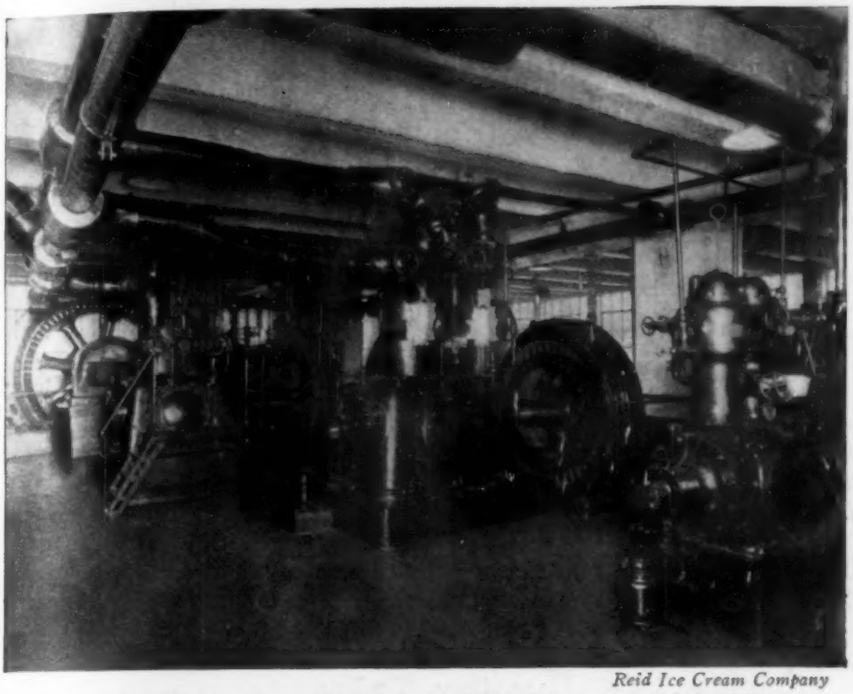
*Automatic packing machines deliver brick ice cream to the consumer untouched by human hands.*

A custom of somewhat recent origin makes it possible for children and older patients in Philadelphia's big city hospital to have ice cream three times a week or oftener. Philadelphia, it is said, is a city of quaint customs and traditions. The Mummers' New Year parade, "blue law" Sundays, carefully preserved historical landmarks and crooked little downtown streets are pointed out to prove this statement. But while this custom of which we are speaking shares neither the age nor the quaintness of some others, Philadelphians think it well worth preserving.

Knowing the appetite appeal of ice cream for invalids when other nourishment is often rejected, I desired that a quantity of it be provided on the hospital menus. But city funds for this purpose were lacking. Still I held to my conviction that ice cream had work to do in helping our patients get well. On the first day of summer in 1916 a statement was issued concerning the desirability of the addition of ice cream to sick-room trays, and a request for assistance in providing it brought surprising results. Now checks are often in hand before the appeal is made. During 1926, $953.63 was contributed to Philadelphia's ice cream fund.

Fortunately, such generosity enables us to provide this nourishing delicacy to all who, by force of circumstances, must rely on the city government to act as their good Samaritan in time of illness. But we are especially careful to see that our tuberculous patients receive ice cream as often as our funds will allow for we know its value as a fresh dairy food. In diabetes and kindred diseases the sufferer must forego ice cream because of its sugar content, but for the most part only good comes of its inclusion in invalid diet.

Little boys like Mike and his buddy think no more of the unique custom which supplies them with their ice cream treat than they do of the number of calories they get from their portions. Like the great majority of older and more active devotees of this dish, they do not realize that ice cream is in all respects a real food as well as a pleasing one. Its palatability is one item much in its favor, for the anticipation of enjoyable food stimulates the digestive processes and thus hastens digestion and assimilation. Food that "makes the mouth water," as the old saying goes, is apt to be good for



*Reid Ice Cream Company*

*Five hundred tons of mechanical refrigeration are used in this one ice cream plant for driving the heat units out of cream.*

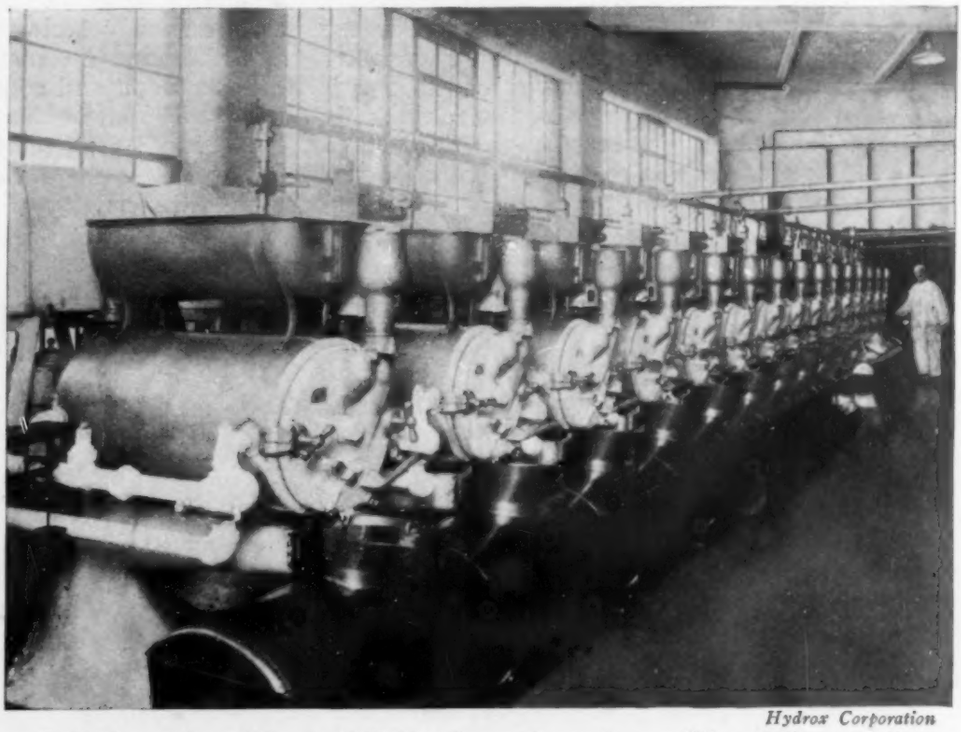
one if the statement is literal and not imaginative. As to calories, a quart of ice cream provides from 700 to 1,250 of these little heat measures. It is easy to divide by the number of dishes taken from a quart and see how many calories would be provided by one serving.

The desirability of milk and milk products in the everyday diet of adults as well as children is an accepted fact among scientists who deal in food values. Every city health commissioner is engaged in promoting the enlargement of his city's milk supply as well as the improvement of its quality. The average consumption of milk and milk products is far below what it should be. The goal that we hope to reach in Philadelphia—1,000,000 quarts daily instead of the present 700,000—would raise the daily consumption per person from one third quart to about one half quart.

Although this pint per person will be excellent for the adult, it is most desirable that the growing child should have more than a pint a day. An increase of bad milk, however, would be worse than no increase at all. Our milk inspection department holds to an ideal of efficient supervision in which dealers, backed by the National Dairy Council, give their full cooperation.

One of the chief reasons for this insistence on milk in the daily ration of child and adult is that milk is a protective food and as such is in the class of those foods whose liberal use protects health and promotes growth. It excels all other protective foods, being approached in value only by fresh, green, leafy vegetables such as lettuce and spinach. Its liberal use is one of the best dietary precautions for maintaining good health in all persons and particularly for promoting healthy growth in children.

Only too often the youngster as well as the adult takes no cognizance of the value of milk along with his other food and refuses it merely with "I don't like it." No better way of introducing more milk into the meals of the stubborn child or reluctant adult can be found than



*Hydrox Corporation*

***Batteries of freezers are daily turning out nearly a million gallons of the great American dish. This factory is equipped with the hopper system for emptying freezers.***

through ice cream. As a fresh cream product it retains almost all the valuable assets of the original and chief ingredients. The addition of sugar and flavoring to the butter fats, lime, protein and vitamins of milk adds further heat energy to the food. Other than this, the changes in composition are slight. But because it tastes so good, ice cream is often popular when milk is regarded only indifferently.

Objection is sometimes made that ice cream is bad for people because of its cooling effect on the stomach. Consideration is not given to the fact that ice cream is or should be eaten, not swallowed quickly, as is too often the case with cold drinks. Once swallowed it must pass down a long hot tube to reach the stomach. During chewing and swallowing it is warmed to a point near the temperature of the body.

Even allowing that a dish of ice cream might be somewhat cooling, it is necessary to remember that this condition is only temporary. For, paradoxical as it may seem, ice cream is a heat-producing food. Both cream and sugar supply the body with that heat energy, which must be constantly renewed if its various cells are to survive. The quick assimilation of these strength-giving elements is one of the reasons that it is a fine summer as well as winter food. The body has need of strength to fight heat as well as cold and the more easily it obtains that resistant strength the better.

Because of the good quality of ingredients and careful manufacturing methods, which cooperation between health officers and manufacturers has made possible, the housewife may take advantage of ready-made ice cream and receive only benefit for herself and family. For the ice cream man's advertising boast of pure ingredients and sanitary factory conditions is no empty wind bag of words but may easily be corroborated by a tour of inspection whenever the housewife is in the neighborhood of his business during working hours.

Although my personal experience in contact with manufacturers has been in my own city, friends in official positions elsewhere tell me that cooperation is the watchword of this food industry. In Philadelphia, known as the home of ice cream, the newest and most sanitary machinery combined with ingredients of highest quality makes Philadelphia ice cream as good as is obtainable anywhere. Probably this accounts for the fact that the city comes close to holding the record for gallons of ice cream consumed yearly.

To the family food administrator, ice cream makes an appeal even beyond that of nutriment. How skilfully, by combinations of various flavors and the additions of sauces, nuts and fruits, both canned and fresh, does she devise desserts that get a vociferous welcome even in the blasé and spoiled American family. When she serves fruits and berries with ice cream she adds carbohydrates to its already bountiful store of goodness. The sauces add sugar, which supplies more heat energy.

Here, then, the housewife is given an almost infinite variety of desserts at little labor to herself. For the ice cream is easily procured, and the fact that its flavor matches its economical cost endears it to her as the base for many a dessert—winter and summer. More time for club and community activities, more hours for walking in the open air, more freedom for personal development—for these reasons, the housewife owes it to herself to labor as little in the kitchen as possible, so long as she can keep the family well nourished. As a means to this end ice cream may well appear on the family table just as often as it appears in Philadelphia General Hospital, always three times a week and sometimes oftener. It is safe to predict that no family will offer exception to the quaintness of the custom any more than did the two little boys mentioned at the beginning of this article.

IX. Regressions

Concluding the Series

# The Nervous Child

By Frank Howard Richardson

OCCASIONALLY it happens that an extremely nervous child, after having developed both emotionally and intellectually to a stage appropriate to his age, either suddenly or gradually ceases to advance. On the contrary, he begins to retrogress, or "regress," to use the technical term, to an emotional stage appropriate to an age considerably younger than his own. He does things that would be appropriate were he in reality no older than the age to which he has reverted, but which are entirely too immature for the age at which he has actually arrived.

A boy of 10, apparently normal physically, emotionally and intellectually, wants to be held in his mother's arms; refuses to go to school unless some one walks along with him, holding his hand; or cries and sulks unless he can wear the sort of suits that would be appropriate to a child of 4. A girl of 12 wants to suck on a rubber pacifier, play with a rattle, or wear a baby's cap. Instances of this sort could be multiplied indefinitely. When they occur, they naturally cause a degree of anxiety commensurate with their unusualness.

### *Seeking Cause of Strange Behavior*

In order to find a cause for such an occurrence, it is necessary to go into the history of the family at about or a little before the time of the first appearance of the regression. Honest as the parents may try to be, they are so close to events that they may be unable to give the unbiased account desired. In such a case, it may be necessary to interview some close friend of the family who can give a truer perspective.

Probably some upsetting emotional scene or experience has been lived through, at some time antedating the appearance of the strange symptoms that go to make up the regression. Perhaps an idolized parent has died. A bereaved father, after a period of demonstrative mourning during which he has turned for his sole comfort to the child, may have suddenly married again and as suddenly turned his demonstrativeness away from the child, to lavish it on one whom the youngster regards as a supplanter of his mother. Perhaps a much-desired and long-promised trip or present, to which the child has been looking forward with assurance, has been unexpectedly denied him and given instead to a more favored brother or sister.

### *Airing of Hidden Condition May Bring Cure*

If nothing so definite can be elicited after a careful survey of the family's history immediately preceding the initial manifestation of the regression, the physician may feel assured that some serious experience has transpired in the psychic life of the child. It must in some way be brought to light before the strange conduct can be traced to its source and eventually cured. To run to earth the causative factor may require extreme tact, patience and a genuine technical knowledge of how to deal with the innermost life experiences of supersensitive children. Ruthless probing, thirty-second degree police methods, inquisition technic, will not do. If nothing more skilful than these hammer and tongs procedures is available, the condition had far better be left alone. Patient, sympathetic dealing with the problem presented, on the other hand, may suffice to bring to light the upsetting emotional insult.

The very ventilation or airing of this buried condition may be all that is necessary in order

completely to cure the regression. In that event the danger signal that has called attention to a serious something that might otherwise have gone unobserved will have resulted in the prevention of even more serious damage later.

There is difference of opinion as to how such unnatural and unexpected phenomena come about from disagreeable emotional experiences. Perhaps the simplest and most rational explanation—certainly as easy to understand as any—is a craving for the relative security and freedom from difficulties and responsibilities that the child associates with his life at an earlier time. Adults indulge in similar flights from reality when they pine for the happy days of childhood, attributing to them in fancy a complete freedom from cares and sorrows, which sober sense tells them they were far from enjoying during these early years.

### *Wants Carefree Days to Return*

The nervous child, passing through an experience that he finds unbearably hard to endure, longs for the happy days of a few years back. He evidences this, to the thoughtful and experienced observer, by trying to do some of the things that he deems appropriate to this bygone time, whereas adults, who realize more keenly than he does that that golden age is actually gone forever, get their satisfaction not by trying as he does to reenact them but simply by idealizing them and dreaming about them.

How are these regressions to be dealt with? It will readily be seen that in a real regression there is a profound change from the ordinary. A regression is a serious enough manifestation to call for a general revaluation of the sum total of the factors making up the emotional life of the child. Small, narrowly conceived changes cannot be relied upon to accomplish much in such cases. What is required is a whole readjustment of the life of the child.

The first and most important thing to do is to make the diagnosis. This includes the sizing up of the child's whole personality, the making of an expert appraisal of his physical as well as of his psychic self, and an evaluation of the milieu in which he finds himself in the light of modern psychiatric knowledge and practice. In other words, a complete survey of the home, the family and their constituent factors must be included in the study. Such a diagnosis calls for some one of wide technical training, as well as of broad human sympathy. But it is highly essential that some such broad, wide and deep foundation be laid down for the erection of the superstructure that is to follow.

When a comprehensive view of the whole situation has been obtained, there is almost certain to be obvious some definite cause, perhaps a number of causes acting together, for the regression. This will be patent to any one who can bring to the inspection a reasonably unprejudiced point of view. Unfortunately, such a simple prerequisite is frequently unattainable by the members of the family group whose faulty attitude has been at the root of the whole matter. Even after a clean-cut, unquestionably correct diagnosis has been arrived at, the problem of how to apply curative measures may be well-nigh impossible of solution.

Take, for example, the unfortunate child of divorced parents allowed by the court to belong alternately to the parents. Suppose that both parents have remarried; and that, as is not uncommon, the economic status of the two resulting homes is quite different. The diagnosis of the regression, as well as of its cause, in such a case, is perfectly plain. What the condition is and what has brought it about are obvious. But the correction of the difficulty, in the sense of removing the cause is manifestly impossible.

What must be done in such a case is to create an entirely new situation, which will of course vary according to the material available. One must build for the child a new psychic life, with new behavior models and new ideals. The legal solution of the parents' problem has created an impossible situation, to meet which some such radical rebuilding is essential. Otherwise, as is so often the aftermath of divorce tragedies, a hopelessly wrecked childhood and a warped manhood or womanhood may result.

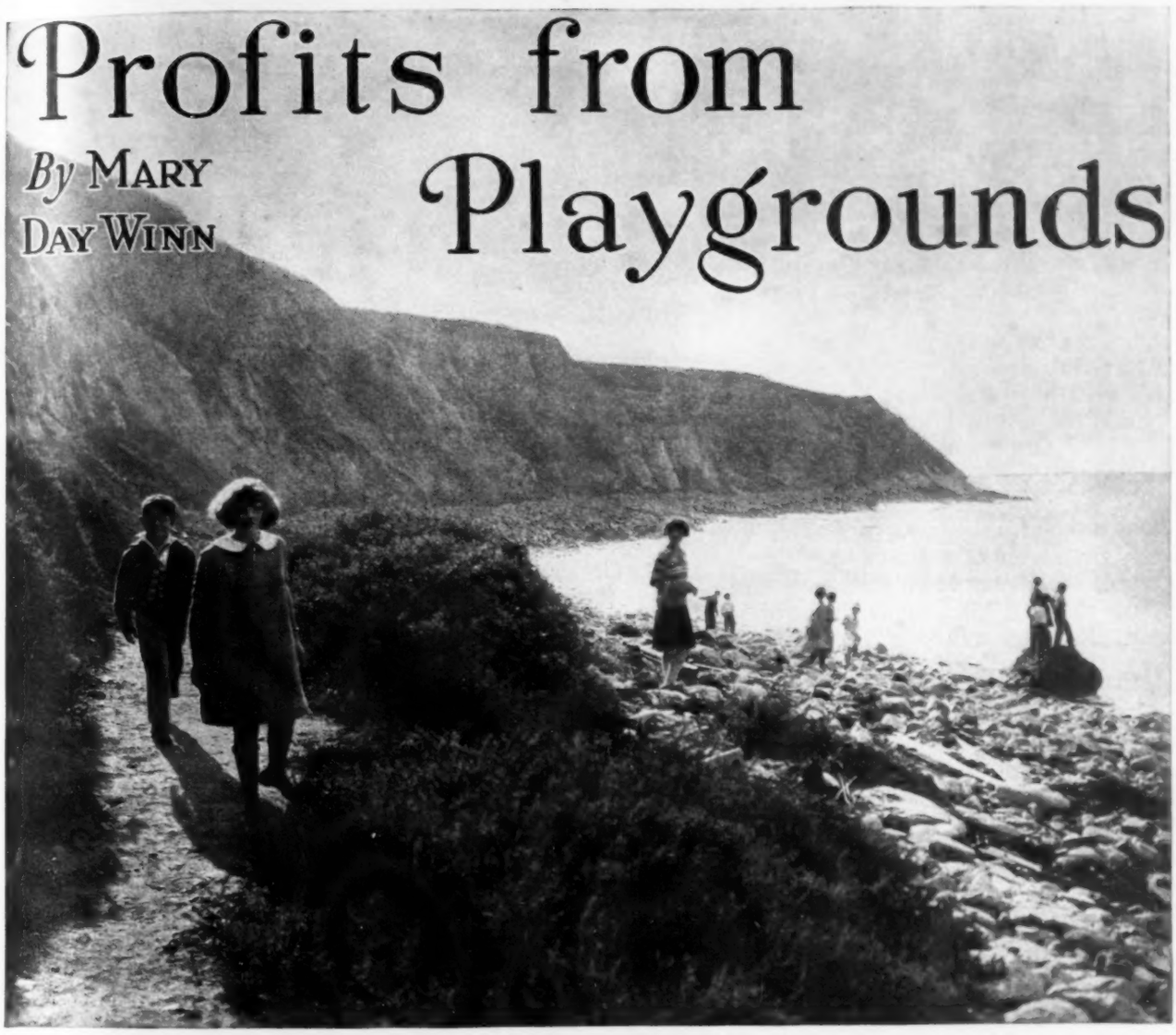
### *Childish Mother May Furnish Example*

Another regression is that of the child who has taken as a behavior model the hopelessly infantile mother, who reacts to all difficult or disagreeable situations in life either by refusing to admit that they exist or by the equally immature response of helplessly bewailing the cruelty of fate. The diagnosis of the condition and of its cause are simple enough; but how is the removal of the cause, for the accomplishment of the cure, to be brought about? Some completely new solution must be worked out if a satisfactory cure for the child is to be accomplished. Even such a drastic measure as the separation of the child from the faulty behavior pattern furnished for imitation by the mother may be ineffectual for accomplishing a cure of the condition.

These two simple illustrations out of hundreds that could be cited will show how difficult it is to work out a solution at once desirable and possible. They demonstrate the necessity for the development, in this complex modern life of ours, of a new type of expert for handling these problems. Such an expert must combine the functions of family physician, psychologist, social worker, pastor and executive, in such proportions as will best equip him to deal with the muddles about us that are wrecking the lives of little children of today, the men and women of tomorrow.

# Profits from Playgrounds

*By* MARY DAY WINN



*Four and a half miles of coast line have been dedicated forever to the recreation of the residents of Palos Verdes Estates, Los Angeles, being protected from private ownership or commercial encroachment.*

IF a person were told that something he would have to have sooner or later would cost him seven times as much year after next as it would right now, he would certainly waste no time in buying it, whatever it was. If he didn't have the money, he might even be wise to borrow it.

It is a strange fact, though well known to psychologists, that a group of persons acting together frequently shows less foresight and judgment than would almost any single member of the group acting by himself. This is almost the only way we can explain the terrible lack of foresight shown by many American cities in waiting until city land is selling for an almost fabulous price before they buy any of it to set aside for park and recreation purposes.

### *Examples of Group Stupidity*

One striking example of such group stupidity was recently shown by Los Angeles. Not so long ago 200 beautiful acres could have been bought for park purposes in Beverly Hills, a suburb in which Mary Pickford and other screen celebrities live, for $1,000 an acre. But by the time the citizens realized that they needed a recreation center the same land could not be purchased for $20,000 an acre.

### *Less Crime and Fewer Accidents*

Other cities cannot point the finger of scorn at Los Angeles for this masterpiece of municipal shortsightedness, for many of them also have been foolish. Though judges say that the number of juvenile delinquents is always less in the neighborhood of a supervised playground; though safety-first authorities point out that there are fewer accidents when children are off the streets, and though doctors stress the need for active games in the open air, many American cities are now in the unenviable position of either letting their children play on

crowded and dirty streets or condemning for playground purposes already built-up property, at a cost that is staggering.

One of the worst sufferers in this respect is New York, where the need is so great in certain crowded sections that whole city blocks, both street and sidewalks, are shut off from traffic during certain hours of the day, in order to give the children a place to play.

The realization that the only way to have a city adequately equipped with breathing space is to arrange for it when the city is laid out has caused the Playground and Recreation Association of America to start this year a strenuous campaign to have space for playgrounds and parks set aside by every promoter of a real estate development and every town planning committee at the beginning of the project. Such plots, inexpensive at that time, are usually donated to the community in perpetuity, either by the company or by some generous minded individual. Later they are an asset of inestimable value.

*Adults patronize the community playground set aside as Sunnyside Gardens, Long Island City, by the city housing corporation.*

Cooperating with the Playground and Recreation Association in this campaign are the National Safety Council, the U. S. Automobile Chamber of Commerce of America, the American Legion, the National Congress of Parents and Teachers, the General Federation of Women's Clubs and other public spirited organizations.

The association is firing its campaign guns at two groups of people—the realtors and the parents. It first concentrated its battery of facts and arguments on real estate men, and, having been successful there, is now concentrating on parents.

It has been demonstrated to business men by actual experience that to donate even as much as one tenth of the area of a real estate development to the people for recreation purposes is a paying proposition in the end. The cost of the playground land is usually distributed among the remaining home lots, which find a much readier sale than they would if there were no such attractions near by.

### *Realtors Find Playgrounds Pay*

This is well illustrated by the experience of a New York real estate company. In developing an area of 80 acres in Brooklyn, the promoters set aside a permanent playground space with a retail value of $60,000. Though this was done with considerable misgiving at the time, it proved a valuable selling point in inducing home builders to purchase the land and was fully returned to the developers in the increased value of the other lots.

The experience of this company is being duplicated today in numerous real estate developments all over the United States, in large cities and small communities. Kansas City, for instance, has a new home area in which the people have been presented with block playgrounds, parks, tennis courts, golf courses, picnic grounds and a bird sanctuary. A suburb of Los Angeles contains eight playgrounds, a golf course, 4½ miles of ocean beach, a 40 acre recreation field, and other areas, all dedicated in perpetuity to the people for play purposes. These are all cold-blooded business propositions, planned by real estate promoters because they believe they will pay in the long run.

### *Parents Must Demand Play Space*

This movement among the realtors will not succeed, however, unless it is backed by a demand from the parents. In buying the site for a home, the father and mother should not content themselves with asking, "Has it water, gas, telephone, electricity, schools and good transportation?" They should also inquire, "Has it playgrounds for children and recreation centers for adults?"

No parent who studies the list of accidents to children published regularly by the National Safety Council can fail to see the importance of neighborhood playgrounds located in such a way that the youngsters do not have to cross the streets to get to them. As the result of a recent study of motor accidents in Chicago, it was discovered that nearly half the children were run down on their home block; three fourths of the whole number were within two blocks of home. Most of these accidents occurred between 4 and 6 p. m., when the children were out of school and playing on the

street; comparatively few occurred in the congested business sections.

As if this did not picture clearly enough the need for frequent little playgrounds for very young children to take the place of our rapidly dwindling front yards, careful checking up in a number of other cities has shown that the number of street accidents in neighborhoods convenient to playgrounds is considerably less than in similar neighborhoods that have provided no playgrounds.

This appreciation of the difficulty of caring for small children, especially in crowded cities, has introduced a form of playground unknown a few years ago—the community back yard. A number of real estate developments have taken slices from all the back yards of a square block of buildings and thrown them together into a small playground for little tots, with sand box, swings, teeters and slide. The arrangement is almost ideal, as it keeps the little ones away from the street and close to the mother's watchful eye.

### *Inner Court Playgrounds for Tots*

An interesting example of this kind of playground is at Sunnyside, in New York City, where the city housing corporation is trying to prove that comfortable homes can be provided at moderate cost for families of average income. In addition to a 3 acre recreation park equipped with a ball field, tennis courts, bowling greens, swings, slides, handball court and other attractions, the corporation has provided an inner court playground for little children in each of the three blocks of buildings. All the recreation property in this development was deeded with the understanding that it was to be a private park for the Sunnyside inhabitants as long as they maintained it. This is managed by the paying of an annual membership fee of $5 for each family. Those without memberships, of whom there are few, are required to pay an admittance fee. The providing of adequate play space for the little children is only a small part of the problem. Parents should demand also more extensive playgrounds in their neighborhoods for older boys and girls. These larger spaces are the ones especially difficult to achieve when a city has already been thickly built up, yet they are important not only for the health but for the morals of growing children. According to a statement by Dr. Thomas D. Wood of Columbia University, surveys reveal that 75 per cent of American school children have physical defects that are actually detrimental to their health and school work.

### *Of Great Moral Value*

Most of these defects can be remedied, and one of the remedies is an intelligent program of physical education and active outdoor play. Playing jacks, marbles, sewing or playing the piano will not do; they do not give the development of muscles and lungs that every growing child needs, as is the case with running, jumping, swimming, ball and other recreations that demand larger spaces.

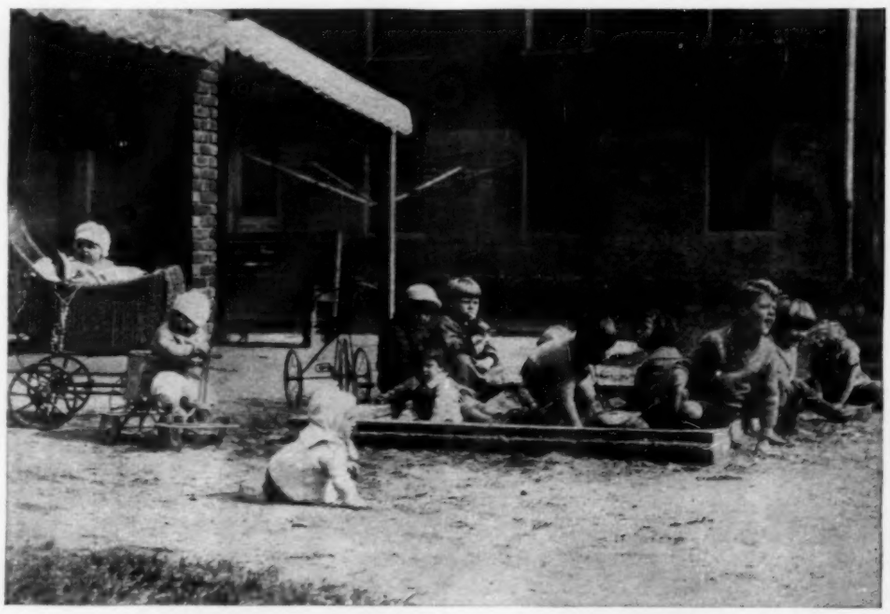
The moral value of a healthy body has been strikingly expressed in a recent statement by Col. Amos W. W. Woodcock, United States district attorney, who says: "I have completed four years as U. S. attorney. That means that I have prosecuted over 4,000 violators of the statutes. . . . It is an interesting fact and more than a coincidence that, although most of these offenders are young men, I do not recall a single instance in which the body gave any evidence of its having been systematically

*Cooking supper in one of the camp ovens in a park provided for the residents of Palos Verdes Estates, Los Angeles.*

developed. On the other hand, and this is almost a truism, the criminal type is the stoop shouldered, hollow chested youth, whose mind is apparently as unwholesome as his body."

The value of playgrounds in keeping boys from running afoul of the law has been proved so many times that almost any parent who can read must realize it by now. It has been proved again and again that when a supervised playground is opened, juvenile delinquency in that neighborhood falls off almost immediately. It fell off 70 per cent, for instance, in Anaheim, Calif.; 50 per cent in certain neighborhoods in Philadelphia, and 75 per cent in El Dorado, Ark. —just to choose a few scattered instances out of a great many that could be cited.

"Since the playgrounds have been in operation," says James H. Killey, probation officer of the juvenile court of Milwaukee County, "delinquency cases in the juvenile court have been completely wiped out, and for the last two years not a boy from this community under the age of 17 years has been before the juvenile court on any charge whatsoever, except for truancy, and only six on this complaint. After fifteen years' service in the juvenile court as probation officer, I have found that the playgrounds and social centers are the greatest saviors for our American youth. They prevent most of our boys and girls from going wrong and becoming delinquent."



*Sandboxes delight the tots at the inner court playgrounds provided in each block at Sunnyside Gardens, Long Island City.*

One point about these playgrounds is important: They should be supervised, preferably by some one trained in this kind of work. Donors of playgrounds and playground equipment that have not had regular supervision have been greatly disappointed by the results. The children quarrel, destroy the equipment almost as fast as it is put up, and there is not the same opportunity to develop the spirit of fairness, team play and sportsmanship that is such a valuable outgrowth of the well managed playground.

Real estate developers are also being successfully urged to provide outdoor recreation for mother and father, and even for grandmother and grandfather. The outdoor checkers tables and horseshoe courts, which are a feature of many western parks, are fine for old folk but not quite vigorous enough for the middle aged. They turn instead to golf, tennis, riding, hiking and swimming. These have formerly been, in the main, a rich man's form of exercise, since they often involved membership at an expensive country club and a costly and time-consuming trip to and from the links or courts. But modern real estate developments are putting them within the grasp of the moderately fat of purse.

Jackson Heights, a community of apartment buildings within twenty minutes of Wall Street, has its golf course and tennis courts, laid out when the place was started. At Nassau Shores, a new development on Long Island, a tract valued at about one million dollars, in the very heart of the subdivision, has been laid out as a nine hole golf course. A hundred thousand dollar golf and yacht club is nearing completion. When one buys a lot at Nassau Shores, he acquires a permanent membership in the golf club; also access to a strip of beach, which affords excellent bathing. A sizable area has also been set aside for a children's playground.

The question of the upkeep of public parks and recreation centers is one that is met in slightly different ways. It is usually shared, for a time at least, by the local government and private interests, the latter being either the individual home owners in the development or the developing company or both. The tendency seems to be, however, for the municipality to take on a greater part of the burden as time goes on, until finally it is paying all the expenses.

Of course the taxpayer pays in the end, whether it comes from him directly or indirectly, but he pays much less than if he waited until that same land became congested and expensive, and in the meantime he is reaping big dividends in health and happiness.

HYGEIA
THE HEALTH MAGAZINE
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# *Plain Facts about Health and Disease*

## HEALTH NEWS OF THE MONTH

**Heat Stroke or Sun Stroke**

In summer time when the heat of the sun beats down and when there is considerable humidity a number of persons succumb to a series of symptoms that have been grouped together under the name "heat stroke." Sometimes the same symptoms occur in the winter among employees in furnace rooms, laundries, bakeries or similar establishments in which heat and humidity are intense. The frequency of such incidents on board ship makes the problem of control one of special interest to the U. S. Navy. Recently two naval medical officers, Drs. E. G. Wakefield and W. W. Hall, have completed a series of investigations of great interest.

The authors point out that heat stroke or sun stroke is the oldest known disease. The condition is referred to among the stories of the Bible. Great numbers of people are reported to have died in some long sustained hot spells as in Peking in 1743, when 11,000 persons are said to have perished on the streets from the effects of heat. In a recent hot period of three days in New York City more than seventy deaths following heat stroke were reported. The investigations indicated that persons raised in the South are less likely to succumb to heat stroke than those accustomed to the northern climate.

Not infrequently the first symptoms of collapse, nausea and vomiting, are followed by secondary disturbances which indicate that some permanent damage may have been done. Patients have difficulty with speech, difficulty in swallowing and may have mental disturbances. Sometimes they complain unduly of headaches, loss of appetite and hyperirritability for several weeks. A person who has once suffered from heat stroke seems to succumb more easily to a second attack.

When a person collapses as a result of the heat he should be removed promptly to a cool place. Tight clothing should be loosened or removed. The body may be sponged with cloths wrung out of cold water or rubbed with ice, if the temperature is high, but if the person is in shock with subnormal temperature hot water bottles may be applied to the extremities and the circulation stimulated by such remedies as a physician will supply.

The blood of animals subjected to heat stroke was carefully studied as to any chemical changes that might occur. It was found that the changes in heat stroke are similar to those in other conditions when the reaction of the body tends toward acidity rather than alkalinity. In other words the symptoms of heat stroke are much like those assembled under the term "acidosis." In combating acidosis it is customary to use remedies such as bicarbonate of soda, sodium citrate and potassium acetate, which supply the body with alkaline reacting chemicals. The citrus fruits and the drinks made of citrus fruit juices are also valuable for combating acidosis.

**Why Workers Borrow**

Recently an investigation was undertaken by the Women's Educational and Industrial Union of Boston to find out why the average industrial worker was compelled to borrow money. Eight credit unions extending loans to workers submitted the records of 4,000 loans, of which 3,048 were for men and 952 for women. More than 73 per cent of the men and more than 23 per cent of the women who borrowed money were married. Most of the men who borrowed were between 25 and 40 years old, at the time when their earning power should have been greatest.

The purposes for which these people borrowed money revealed dramatically the crises in human lives that bring extraordinary drains

on the income. The most common reason for borrowing, and it is for this reason that the matter is discussed in HYGEIA, was to meet expenses incurred during illness: 18.9 per cent in the case of men and 37 per cent for women. This included also dental bills, of which there were many.

In one credit union 47 per cent of the women and 20 per cent of the men listed as borrowing money for medical purposes did so to pay dental bills. A few instances especially investigated revealed the fact that some of this borrowing was for preventive medicine, in order to have teeth straightened or tonsils removed. In one instance a girl of 22 had borrowed and repaid over a period of several years nearly $600 for surgical and hospital care for a crippled brother. Much of the borrowing was also done to meet the expenses of childbirth.

On the other hand, an investigation of workers' borrowing money indicates that a loan is infrequently made to purchase property by a worker who is especially thrifty. It was found that 36 per cent of all workers in one group owned automobiles but nevertheless were borrowing money for other purposes. Although coal, family expenses, clothing, taxes and insurance are high up in the list of causes for which workers borrow money, vacations, automobiles and radios appear not infrequently on the list. In order to borrow money for such purposes the worker must have a very good record and endorsers. Only a few loans were made for purposes of education, although one man earning $40 per week borrowed to pay his daughter's college tuition and another to send his son through Harvard.

These figures are of interest in their relationship to the cost of medical service. However, they must not be taken to indicate that medical bills are beyond the means of the worker. They indicate rather that many persons live right up to their incomes and make no provision for medical emergencies.

**Infant Mortality for 1926**

The American Child Health Association has just made available its eighth annual report of infant mortality. It covers 675 cities in the United States and reveals such interesting information as the fact that only 39 out of every thousand babies born in Portland, Ore., die during the first year of life, whereas 160 out of each thousand die in Johnson City, Tenn.

Between these figures are such remarkably low rates as those of Seattle, 47; San Francisco, 50; Kansas City, 65; St. Paul, 56; Berkeley, Calif., 37; Pasadena, Calif., 36; Oak Park, Ill., 35; Benton Harbor, Mich., 27, and Fairibault, Minn., 30. There are also such high records as Staunton, Va., 156; East Chicago, Ind., 120; Petersburg, Va., 137; Charleston, S. C., 146; Atlanta, 111, and New Orleans, 121.

In general the cities of the Pacific Coast show by far the lowest records. Their decrease since 1922 was 8, a record equaled only by the Middle Atlantic states. Among the largest cities in the United States, Portland, Ore., Seattle, and San Francisco had the lowest rates and the states of Oregon, Washington and California were similarly lowest among the state groups. In the cities between 100,000 and 250,000 population, New Haven, Conn., with 54, St. Paul, Minn., and Cambridge, Mass., each with 56, were leaders.

One of the greatest tragedies known to mankind is the death within the first year of a child brought into existence after its mother has passed through the vicissitudes and difficulties inevitably associated with childbirth. Many of these deaths are preventable, arising from causes that can be controlled. In most instances, suitable attention given to the mother as soon as she realizes that she is to have a child will be of vast service in giving the child an equal start with other infants. The proper care and feeding of the infant after childbirth, breast nursing by the mother, attention to the water it drinks, its bathing, its rest and its exposure to infectious diseases will prevent the occurrence of thousands of early deaths.

The great advance in life expectancy in the past one hundred years represents largely the attention that has been given to this subject of infant mortality. Additional consideration of this subject will still further increase the possibilities for the growth and development of healthy citizens. M. F.

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## H. G. WELLS AND THE ANTI-VIVISECTIONIST

WHEN an author and philosopher as noted as H. G. Wells turns his attention to the processes of thought of a remarkable group like the antivivisectionists, the result is likely to be interesting if not enlightening. Mr. Wells points out that there are some questions that really serve to classify men's minds. "Upon a great multitude of the important problems today," says Mr. Wells, "you do not know where you are; you are just maundering about until you have thought out and decided clearly in these matters and adjusted your ideas to them."

In the first place Wells objects, as do many medical scientists, to the term "vivisection," characterizing it as a clumsy, misleading name for experimentation on animals for the sake of the knowledge to be gained thereby. The larger bulk of experiments on animals for scientific purposes involve no cutting about and very little pain. When there is actual cutting, it is nearly always performed under anesthetics and in the majority of instances the animal does not need to recover consciousness. In some cases suffering is inflicted, but as Mr. Wells so wisely comments, far more pain, terror and distress are inflicted on the first day of pheasant shooting every year for no purpose at all, except the satisfaction of the guns on the wounded and mutilated birds that escape them, than is inflicted by all of the scientific investigators of the world vivisecting for a year.

Much of the consideration that Mr. Wells gives to this subject is devoted to a topic that has seemed to other philosophers as well to offer a peculiar insight into the mind of the female antivivisectionist. She it is who is usually possessed of what is called a "fancy dog." The lives of such animals are obviously unnatural and tortured.

"The world of pet animals," says Mr. Wells, "is a world of aimless experimenting with life. The lives of the pets of careless women are for the most part remarkable histories of wrong and excessive feeding and fitful fussing and negligence; and these creatures are themselves in many of their varieties products of a ruthlessly dysgenic breeding industry which sacrifices vigor and vitality to minuteness, quaintness and delicious ugliness." The antivivisectionists do not attack this trade in toy animals, nor the importation of monkeys as pets. They do not perhaps realize how much more torture is such an unnatural existence than any of the experiments performed by the scientific investigator.

Mr. Wells characterizes the mode of thought of the "anti" as an honest delusion, the outcome of a peculiar mental make-up and not a wilful inconsistency. The antivivisectionist does not hate pain as such, but pain inflicted to gain knowledge.

The featured article in the New York Times Magazine of July 24 by Mr. Wells draws a contrast between the highly intelligent character of the experimenter in biology and the remarkably clouded mentality of the antivivisectionist. "The biological experimenter experiments because he wants to know. He is neither dismayed by pain nor does he desire that pain should enter into his experiments. He avoids it when possible. . . . He wants knowledge because he wants knowledge; it is his characteristic good."

Mr. Wells realizes that few men are characterized by this inspiration to search for the truth. Most of us want to keep our illusions. We want to be happy in our imaginations. The antivivisectionist clothes his world in rich swathings of feelings and self-projection. He is afraid of bare reality as a child is afraid of a skeleton. M. F.

## THE SUMMER ROUND-UP OF PRE-SCHOOL CHILDREN

THE summer round-up campaign of the National Congress of Parents and Teachers for 1927 shows a noteworthy advance over that of the two previous years during which it has been conducted.

Sixty thousand blank forms have been issued to the 1,845 local parent-teacher associations which have registered in forty-two states for the 1927 campaign. These blanks are used in the physical examination of the children who are to enter school this autumn for the first time. On one side of the blank are entered the results of the inspection of the preschool child made in the month of May; on the reverse side will be recorded the observations of the family doctor at his examination of the child at the time of opening of the schools in September. He reports also as to the correction of any physical defects that he found when the child was referred to him from the inspection in May. Prizes are awarded by the national congress to the local associations making the best records.

While the preliminary inspection (not an examination) in May is made in the majority of cases by the teacher or school nurse, the child is referred to the family doctor for thorough examination. He is to be responsible for decision as to what if any defects are present which demand correction, for seeing to it that these defects are amended during the summer months and for filling out the report on the child's condition in September. By this plan the parents and the family physician cooperate and share the responsibility for attention to this matter. Those parents who are unable to pay for this service are referred to a clinic when one is available.

Have you a child who begins his school life this autumn? Join your local parent-teacher association and have your child examined by your family doctor. J. M. D.

# What Chee Wee Learned *in the* Garden

*By Jennie MacMaster*

CHEE WEE twittered and fluttered with happiness. For weeks he had huddled into the little round nest that he had thought was the world. But now he was really out in this glorious wide, high world of trees and flowers, of sunshine and bright sky, and of myriads of other birds. Oh, it was a wonderful place for a little bird to be in.

Chee Wee lay over on the feathers of his breast and buried his bill deep into the cool, sweet grass. In a frenzy of joy he rocked far back on his tail and twittered up at the bright blue sky. Some day he would fly high, high up in the sunshine. Cheery-o, his mother, was teaching him to fly.

Oh, but he was happy! He spread his wings and flew along close to the grass. Cheery-o had told him that he must keep on trying. "For you see," she had said, "little birds, just like little children, learn by doing the same thing over and over. And," she had added, "the more you use your wings, the stronger they will grow."

And Cheery-o was right! Chee Wee was sure of it now, because each time he tried his wings they took him higher and farther before they grew tired. He dived down to the grass again and stood up tall to see how far he had flown. He leaned so far back, trying to be sure of each inch, that he toppled over backward. When he fluttered up again, there stood Cheery-o watching him.

Cheery-o hopped up close to Chee Wee and pointed to a funny flat bowl raised on a high stand, right in the middle of the lawn. Chee Wee had been wondering what that was and now Cheery-o bade him fly with her to the top of the bowl.

*"No," cried Chee Wee, "I don't like the water."*

Away went Cheery-o and Chee Wee followed closely after. When he alighted on the rim of the bowl, he found it filled with water. Suddenly he shivered as if he were cold. He did not like water. But maybe Cheery-o had brought him here to show him that this was something he must stay away from. Only yesterday she had taken him to where the big yellow cat lay sleeping in the sun. But when they reached there the cat wasn't asleep after all. When she opened one eye a wee bit, Cheery-o had chirped, "Fly to the old lilac bush!"

Chee Wee's little heart had beat so fast that he could hardly fly. But he did get safely to the lilac bush, where Cheery-o edged close to him and said, "You must never go near the old cat. Even when she seems to be asleep she is watching for a chance to pounce on little birds."

So, now, maybe Cheery-o wanted to show him that he must stay away from the water. But no, with a quick flash of her wings, she dropped down into the middle of the bowl. Chee Wee shivered there in the sunshine while he watched his mother fluff out her feathers, flutter her wings and swish her tail. She dived her head deep into the water, then threw it far back and sent bright drops flying all over herself.

It frightened Chee Wee just to watch her. So how do you think he felt when Cheery-o hopped out and said, "Come, now, Chee Wee, you try it!"

Chee Wee drew farther away from the water and began to twitter and complain. "No-o-o," he cried, "I don't like the water."

"Gracious me," scolded Cheery-o, "who ever heard of such a thing? A little bird not like the water! Why you must bathe. You can't

go dirty like that nasty little boy who throws stones at you. You don't want to look like that dirty boy, do you?"

"No," cried Chee Wee, "of course I don't, but birds could never be that dirty! Birds are like flowers in that way. Flowers never get dirty and I have never seen one of them take a bath."

"Oh, but they do get dirty and when they are dirty they are not healthy."

*Puss*

Chee Wee cocked his head to one side and peered up at his mother. Cheery-o twitched her tail and hopped closer. "Look at those black-eyed Susans out by the gate," she said. "Don't you remember, yesterday when it was so dry and they were covered with dust, how droopy and tired they looked?"

Chee Wee chirped a quick short note and leaned forward to watch his mother.

"And did you see them this morning?" asked Cheery-o. "Did you see how straight and fresh and proud they looked after last night's rain?"

"Oh yes," Chee Wee was excited now, "that's why I stayed out there for such a long time this morning. They were so pretty I couldn't leave them. They looked lots bigger too!"

"Well," nodded Cheery-o, "that's how it is with children and birds. When they're clean they're so pretty folks can't help looking at them. The very cleanness makes them fresh and proud looking; and it makes them grow bigger and stronger, too."

"Mother," chirped Chee Wee, "is it the rain that gives flowers their baths?"

"Why, of course! The rain and the dew, and sometimes when people are particular about certain flowers they sprinkle water on them. That's why Grandpa Summers waters the flowers in the garden. He wants them to be strong and beautiful, and he knows that they must be bathed often or they won't be."

"But the black-eyed Susans? He doesn't water them, and what if it hadn't rained last night?"

"Well, if it hadn't rained, the dew would have helped a little. But it doesn't help much when they're so dirty. The dew trying to wash such dusty flowers is as bad as a little boy washing only his face and hands when he needs a whole bath."

Chee Wee looked around over the garden. It was so fresh and pretty after the rain. Then he peered into the water in the bath bowl. "The water looks so cold," he complained, drawing back, "it makes me shiver just to look at it."

"Oh, but it isn't as cold as it looks," coaxed Cheery-o. "Don't you see that the sunshine that you like so much shines down on the water too? It warms the water just as it warms you when you sit with your feathers all fluffed out; and the same as it warms the old yellow cat stretched out there on the grass."

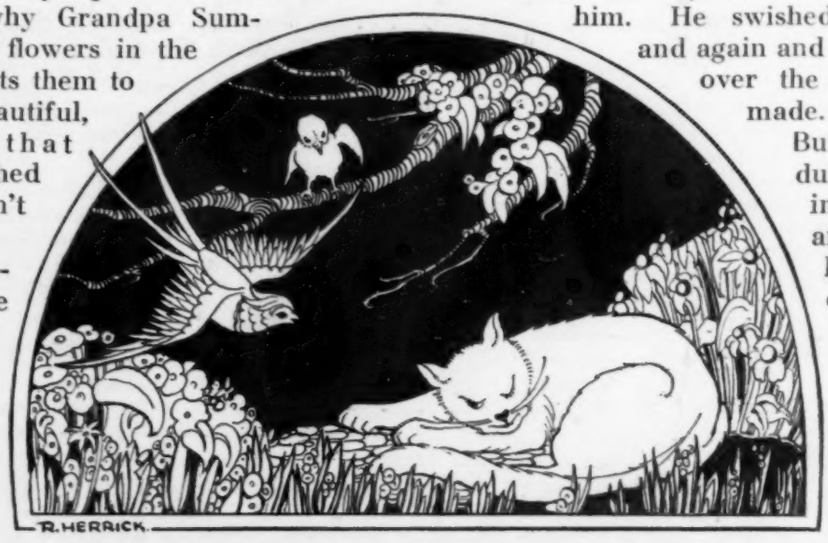
"Ye-es," Chee Wee glanced at the cat, then back at the water again. He shivered, but not as much as he had when he first flew up to the bowl.

"Come now," Cheery-o scolded, "when you see how good it makes you feel, you'll be wishing you hadn't wasted so much time talking about it."

Cheery-o flew back into the water. Chee Wee watched her splashing there till he suddenly gained courage and flew in after her. The water wasn't as cold as Chee Wee had thought it would be, but it was cold enough to make him catch a quick, short breath.

But he did not have time to think about the cold because Cheery-o kept him moving about. She showed him how to lie over first to one side, then to the other. Chee Wee liked to watch the tiny waves ripple all around him. He swished his tail again and again and chirped with glee over the disturbance this made.

But Cheery-o was ducking her head into the water now and throwing the bright drops back over her body. So Chee Wee tried that, too, and found it the most fun of all. In fact, he had never before had so much fun. He thought he



*The cat opened one eye a wee little bit and Cheery-o chirped, "Fly to the old lilac bush."*

would stay in the water always, but just as he made that decision, Cheery-o hopped out and called to him to follow.

Chee Wee pretended not to notice, but Cheery-o called again and more emphatically this time. "Hurry now," she added, "if you play there too long, you'll spoil it all. It's almost as bad to bathe too much as it is not to bathe at all."

"Oh, mother," chirped Chee Wee, hopping out beside Cheery-o, "that was the most fun I've ever had. May I come again tomorrow?"

"Yes indeed," agreed Cheery-o, "you may come once every day; and the first thing you know, you'll be as changed as the black-eyed Susans were this morning after the bath the rain gave them last night."

Then Cheery-o showed Chee Wee how birds dry themselves after their baths. And Chee Wee hopped around on the edge of the bowl in great glee. "O-oh!" he chirped, "I feel so fine. I believe I can fly to the little cherry tree in the far corner of the garden!"

"All right!" cried Cheery-o, "I believe you can. Come, let's try."

So Cheery-o flew to the cherry tree with Chee Wee close beside her and together they disappeared into its thick foliage.

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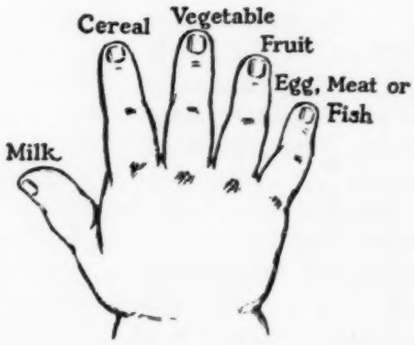
# What Our Fingers Say




## RIGHT HAND

Finger one says, "Give me milk
At least a pint a day."

Finger two says, "Cereal, too,
And cook it well, I pray."

Finger three says, "Vegetable;
Potato, if you please.
And one like spinach, onions, squash,
Or carrots, beans or peas."

Finger four says, "Apples, prunes,
Or other fruit, I wish."

Finger five says, "Soft cooked egg,
Or a piece of meat or fish."

This child's hand says, "Don't forget
To give me these each day
To help me grow up well and strong
To run, and work, and play."

## LEFT HAND

Finger six says, "Go to bed
At seven every night."

Finger seven, "Windows up
In dark as well as light."

F'nger eight says, "Take a bath
At least two times a week,
And every day do not forget
A restful nap to seek."

Finger nine says, "Do be sure
To brush the teeth each day."

Finger ten says, "Eat three meals—
Drink water through the day."

My left hand says, "Outdoor play
And living by this rule
Is giving me the start I need
To make me fit for school."

*—Infant Welfare Society of Chicago.*

# New Books *on* Health

*Reviews of Interest to General Reader, Parent and Teacher*

### HEART AND ATHLETICS

By Felix Deutsch, M.D. and Emil Kauf, M.D. First English Translation. Cloth. Price, $2.50. Pp. 187. Illustrated. C. V. Mosby, St. Louis. 1927.

FEW studies have been made on which to base a uniform conception of the relationship of the functional ability of the heart and the qualification of the body for athletics. This book is an analysis of the heart examinations of thousands of athletes recorded at the Heart Station of Prof. H. H. Meyer and Prof. R. Kaufmann.

"Exercise for pleasure causes no enlargement of the heart, but, on the contrary, produces a strengthening of the whole organism," say the authors. Of considerable interest is the table of heart sizes for women, and the same conclusion is cautiously reached that exercise for pleasure in women produces no enlargement.

Under the heading "Competitive Athletics" the material is subdivided into types of sport that make different calls on the circulatory apparatus. The subjects discussed are swimming, light athletics, football (soccer), rowing, heavy athletics, wrestling, mountain climbing, skiing, boxing, bicycle riding, fencing, hockey, handball, ice skating, tennis and gymnasium.

A comparison of the heart changes in the several types of sport leads to the conclusion that the greatest changes are seen in skiers, then in close order follow oarsmen, bicycle riders, swimmers, wrestlers and mountain climbers. The hearts of fencers seem almost completely unchanged.

There is a concise discussion of clinical heart findings and there are valuable observations on the constitutional dispositions to dilation of the athlete's heart.

Of significance in this work are the case records. The control research covered a period of five years, thus allowing repeated observations rather than mere statistical evaluation.

It is concluded that athletics bring about changes in the heart in a not inconsiderable number of cases which, in the present state of our knowledge, cannot be looked on as harmless; that there is a familial disposition to heart enlargement; that the attitude of the conscientious physician toward athletes with labile hearts should be expressed in strict control; that subjective symptoms do not help us in the expression of the opinion concerning the heart, as they are often completely lacking in demonstrable states of cardiac enlargement; that with adequate medical inspection athletic training is to be permitted to every individual who possesses requisite muscular development irrespective of age, but that the athletic activities of men who are already well on in adult life demand an especially exact medical control.

This volume should be especially valuable to all who are interested or engaged in athletics, whether they are competitive or for pleasure. If not definitely stated it is surely strongly inferred that fitness for particular athletic exertion can be determined only by careful and thorough medical examination and can be made safe only by repeated and painstaking reappraisals of the individual's physical condition. Medical supervision is, therefore, fundamentally essential for safe athletic exertion.

R. G. Leland, M.D.

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### SELF-DIRECTION AND ADJUSTMENT

By Norman Fenton, Ph.D. Cloth. Pp. 121. Price, $1.40. World Book Company, Harrison-on-Hudson, N. Y., 1926.

MATURE students of high school and college age ought to be able to analyze their methods of study and direct their efforts through conscious control of attention. The author tells such students what are the favorable external and internal conditions for effective mental work. He describes ways of systematic attack on intellectual problems and exhorts students to cultivate ideals of objective self-estimation and self-measurement.

The author has succeeded in presenting a readable and easily understood exposition of the fundamental principles of psychology and has applied these principles by many concrete examples to the situations with which students are familiar in their work. The book is a sound and helpful contribution to normal mental hygiene. Charles H. Judd.

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### SHOULD WE BE VACCINATED?

A Survey of the Controversy in Its Historical and Scientific Aspects. By Bernard J. Stern. First edition. Cloth. Pp. 146. Price, $1.50. Harper & Brothers, New York, 1927.

A CONCISE history relating to the introduction of vaccination against smallpox is presented in Bernard J. Stern's book, "Should We Be Vaccinated?"

The author refers to the early observations that cowpox prevented smallpox and describes Jenner's efforts and successes in promoting vaccination in England. He also enumerates in chronological order various important dates concerning vaccination requirements in different countries.

An analysis of the psychologic and sociologic factors interwoven with the opposition to vaccination is dealt with by Stern in his study of the subject. It is made apparent that while some of the original objections were grotesque in nature, others have endured to the present time. Interference of the state with the rights of individuals is a weapon always used against compulsory vaccination. The cry of personal liberty is perhaps more often pushed to the forefront in combating compulsory vaccination than the claim that vaccination is not an efficient protection against smallpox. Many of the objections made against vaccination today had their inception when Jenner introduced vaccination in 1796.

No attempt is made in the book to advance arguments in favor of vaccination. There are no tables to illustrate the devastating havoc that has been wrought by smallpox among the unvaccinated. The author is unbiased and the language used is nontechnical.

"Should We Be Vaccinated?" is simply a historical review of an important subject and serves well its purpose.

Archibald L. Hoyne, M.D.

# News *and* Views

*From the*

## FIELD OF HEALTH

### NO MUZZLE, NO MAIL

The postmaster of Newark, N. J., has issued the dictum, no muzzle, no mail. Carriers are instructed not to deliver mail where there is exposure to unfastened, unmuzzled dogs.

The occurrence of 161 dog bites in Newark in the last month, fifty-two of them in one week, has led to this action, which is heartily endorsed by the city's health department, with the statement that, in the light of past experience, more rabies is found among high grade pets than among unowned mongrels.

### ADULTS LEARN BETTER THAN CHILDREN

The old notion that childhood is the exclusive age of learning is discredited by experiments conducted by Dr. E. L. Thorndike of Columbia University and reported before the American Association for Adult Education. A person under 50 years of age should be encouraged to learn anything new that he wants to and should not hesitate for fear of being too old to learn. To a lesser degree this is also true for the man or woman over 50 years.

In Dr. Thorndike's experiments the learning abilities of a group of average age of 22 years was compared with one of average age of 42 years. The older group learned about five-sixths as fast as the younger but both learned more quickly than children. Apparently learning ability rises to the age of 20 years, then after a stationary period of some years declines very slowly.

It is not age or lack of ability that keeps adults from learning a new language or trade but lack of opportunity or desire.

### SOCIAL SMILE DIFFERS FROM REAL SMILE

The sweet smile of society usage differs fundamentally from the real smile of pleasure, according to Dr. G. H. Monrad Krohn of the University of Oslo. Dr. Krohn discovered, while studying patients with brain injuries, that an entirely different kind of nervous mechanism controls the spontaneous smile than that which controls the voluntary or social smile.

In cases of injury to the motor centers of the brain the patients have difficulty in voluntarily controlling the muscles and nerves of their faces. True emotional movements are unaffected, however, and pleasure brings a smile to the faces of these patients even though they are unable to control their facial movements.

### WARNS AGAINST CHEMICAL HAIR REMOVERS

Danger in the use of depilatories is indicated by experiments made with rabbits by Dr. H. A. McGuigan and Dr. H. N. Ets of the University of Illinois medical school. Barium sulphide, the essential constituent of these hair removers, caused serious results in rabbits when large areas of the skin were covered with the chemical.

In one instance, when a rabbit's ears were covered with a paste containing 50 per cent of the chemical, enough barium sulphide was absorbed to kill the animal. The death was caused, it is believed, by the formation of hydrogen sulphide, a gas that produces more or less toxic effects on human beings.

### COMMERCIAL FLYING IS BECOMING SAFE

Figures show that commercial flying is becoming safer rapidly as the area of operations expands. One may now fly more than one million miles to the risk of a single fatality. The fatality is about half this rate in military flying, the hazards being necessarily greater.

Flying will become even safer as a result of recent legislation providing for federal supervision of flying, in the opinion of Dr. Frederick L. Hoffman, consulting statistician of the Prudential Insurance Company.

### CLOSES EVENING MOVIES TO CHILDREN

The president of Cuba has just signed a decree that forbids the admission of children under 14 years to motion picture theaters after 8:30 p. m., except on Sundays and holidays. Fines are imposed for violations of this decree and the money so collected will be used to buy educational films for the public schools, reports the children's bureau of the U. S. Department of Labor.

### SAFETY PINS AND BUTTONS RIVAL GUNS IN DANGER

The supposedly harmless safety pin is as dangerous to babies as deadly firearms; in fact, the safety pin takes the lead in the number of babies killed, declares Dr. Chevalier Jackson in the *American Magazine*.

A child places things in his mouth out of curiosity, to determine whether they are hard or soft, sweet or sour, hot or cold. Also he imitates his mother and if he sees her put a pin in her mouth he will do the same at the first opportunity. A cough, a laugh or a stumble, and the pin is swallowed or aspirated.

While small children are the most common victims of this careless practice of putting foreign objects in the mouth, the age of swallowing foreign objects never stops until the grave, states Dr. Jackson.

### WOMEN'S EYES LARGER THAN MEN'S

Women's eyes not only appear larger than men's, they actually are larger, concludes Dr. Chia Chi Wang, a Chinese anatomist who has been studying the relative sizes and weights of the eyes of the two sexes. The experiments were made on rats but the rule holds good for mankind.

Women's eyes may not actually weigh more than those of men, but they are heavier in proportion to the weight of the whole body. Perhaps man's greater admiration for large-eyed women may, by natural selection, have perpetuated and increased this greater size of the female eyeball.

*Wide World Photo*

## *PARADING IN WAR CANOES*

**After a strenuous day at the paddles these girls of a Maine camp are glad to let the motor boat tow them in their picturesque evening parade.**

*Ewing Galloway*

## *WATCHING HIS WEIGHT*

**Bobbie is distressed because he cannot see how much weight he has gained since he started drinking milk.**

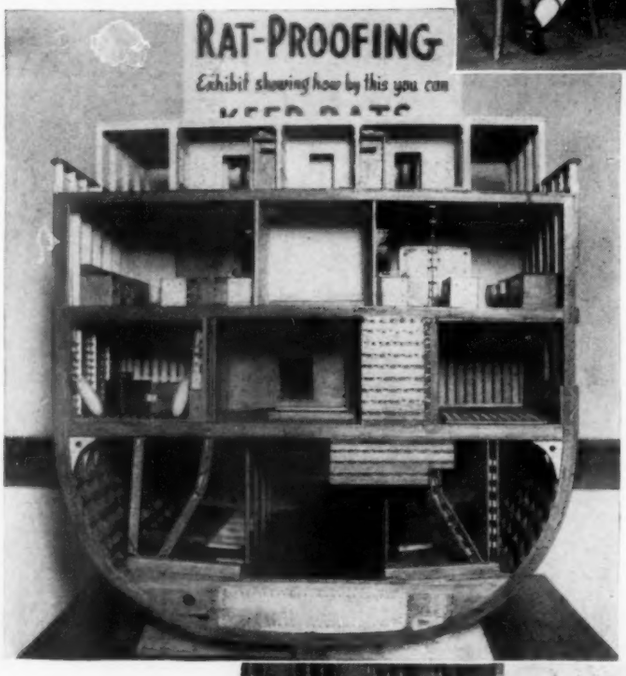
## *CRIPPLES BECOME ACTORS*

**This picture of the cast of a play given by crippled children won first prize in the Chicago Tuberculosis Institute's contest for photographs of child health activities in Chicago and Cook County.**

## *MOTHERS AND BABIES GO TO SCHOOL*

For the benefit of the many mothers in San Diego who are so young they must still attend school, a special course of training in parenthood is being given. The mothers bring their babies to school with them and are taught to care for them physically and mentally.

*Pacific and Atlantic*




## *KEEPING RATS OFF SHIPS*

Because rats carry disease as well as destroy property, the U. S. Public Health Service is interested in their eradication on ships that come to America from foreign parts where rat-borne diseases, like plague, are prevalent. This model is being used to show ship owners and builders how to avoid and to stop up rat holes.

*Underwood and Underwood*

THIS POPULAR PARK KEEPS THE PEOPLE HEALTHY in a crowded part of New York City.

*Ewing Galloway*

## HEALTH CREED FOR TEACHERS

The following health creed has been formulated for teachers by Dr. Florence A. Sherman, assistant medical inspector of schools of the New York state education department:

I believe in a yearly health examination.

I believe in prompt attention to physical defects found.

I believe in following carefully personal health directions given at time of examination.

I believe in embodying and radiating health.

I believe in practicing daily health habits.

I believe in being an example in personal hygiene.

I believe in making health contagious by example and enthusiasm.

I believe a healthy vital teacher is the index of her school.

I believe a teacher is largely responsible for the physical, mental and moral health of her pupils.

I believe in acquiring and in endeavoring to give to others the health point of view.

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## NAILS CAUSE SERIOUS INJURIES

The annual occurrence of 18,000 nail accidents in New York state is the occasion of a warning from the state health department. The most frequent causes of nail accidents are boards torn from boxes and packing cases and left lying on floor, sidewalk or street with the nails sticking up.

The feet are most often the site of nail wounds. The puncture wound caused by a nail, rusty or otherwise, is the ideal sort for the development of tetanus, or lockjaw. Furthermore, even if the nail is clean, the sole of the shoe usually is not and infectious material of all sorts may be carried into the tissues by the nail.

Any nail injury, particularly one received in street or garden, should have the immediate attention of a physician who can give preventive treatment with tetanus antitoxin.

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## DANGER IN LAXATIVES FOR ABDOMINAL PAIN

In case of abdominal pain it is dangerous to administer a laxative before a physician has been called, according to a statement of Dr. John O. Bower.

Delay in calling a physician and the use of laxatives are two common factors causing deaths from appendicitis. Though the surgeon is most apt to be blamed when operations have finally been performed, he really has least to do with the reduction of appendicitis mortality.

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## JACK AND JILL LIVED HYGIENICALLY

Many health lessons are embodied in the old nursery rhymes. For instance, the one about Jack and Jill. Why was their well up the hill, inquires *Health-O-Gram*. In order to avoid contamination by overflow from toilets, pigpens and other drainage possible on lower levels, answers Newark's health officer.

## INSULIN DELAYS PROGRESS OF DIABETES

Despite the increasing use of insulin, the diabetic death rate has been increasing during the past few years, reports the *Statistical Bulletin* of the Metropolitan Life Insurance Company. However, the fact that the use of insulin delays the progress of the disease is shown by statistics, the average age at death among white males having increased almost two years since 1923, when the use of insulin became general.

The death rate would probably have been even higher, but for the use of insulin, according to the opinion stated in this bulletin. The increase in the number of diabetics may be due to the current mode of life, increased ease of living and generally richer diets.

This is in accord with the fact that only during the war years, when the consumption of sugar and other luxuries was cut down, did the diabetic death rate among females decline.

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## TEACH THREE R'S AND HYGIENE

"If in 1911, 358 inhabitants in Hungary of every 100,000 died of tuberculosis and in the United States 159, how many succumbed to the disease in both countries during the year?" This is typical of the arithmetic problems advocated by Dr. Janos Follman of Gyula, Hungary, who would have hygiene thus combined with other subjects in the schools, reports *Science*.

*Atlantic Foto Service*

*Strong boosters for* HYGEIA *are these New Jersey women, members of the newly organized women's auxiliary of the Medical Society of New Jersey.*

# Questions *and* Answers

*If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed.*

### Newman Obesity Fake

*To the Editor:*—I should like to know if Dr. Newman of New York is a reliable physician. He has reducing pills to sell. I am only 18 years old and weigh 180 pounds, and I want to know if his pills would help anybody.

F. G., Pennsylvania.

*Answer.*—R. Newman of New York City, who sells an alleged obesity cure through the mails, is a quack. The treatment, according to analyses that have been made, is essentially that of giving cathartics. Like most mail-order quacks, Newman has a sliding scale of prices. To those who bite on the first bait, the charge is $10. This is reduced by easy stages to $3.

### Graying of the Hair

*To the Editor:*—I should like to obtain the latest information on the cause of hair turning gray. Where does the change of color first become evident, at the base or tip of the hair? Are there any authentic cases of mental conditions causing change of color?

M. A. P., Colorado.

*Answer.*—Graying of the hair, canities, is a nearly universal phenomenon in the white race and one that has excited almost fruitless investigation. The white hair of albinos and the hereditary white spots on otherwise dark haired persons apparently correspond respectively to the recessive and dominant whiteness of lower animals. At times whiteness may accompany leukoderma or other pathologic processes involving pigmentary disturbance in the skin. It also apparently sometimes follows severe constitutional disturbance, after which it seems that recovery may possibly occur.

Sudden graying of hair has been claimed but not proved. It probably does not occur, although it is conceivable that hair might in some purely physical manner be made to increase its gas content and seem to become gray, a possibility seriously doubted by Strong. There is little evidence for such a mode of change, but Hoepke has recently described a most remarkable case of a subject with ringed hair, in which not only the pigment but the gas content changed with the seasons. What actually happens in the follicle before a hair turns white, is still unknown.

As the pigment is formed in the hair follicle, the white hairs, at first few and scattered among the darker ones, are usually not noticed until the whole shaft has become white. This gives to the hair as a whole a partially gray (steel or iron gray) appearance; as more and more white hairs are pushed out, there finally comes the pure white or yellowish white hair of the aged.

### Wilson Ear Drum

*To the Editor:*—My mother is getting hard of hearing and was told that an ear instrument is made by the Wilson Company of Kentucky which has met with more or less favor. The particular feature of this instrument that appeals is the fact that it is small and not visible when in use.

M. Mc., Missouri.

*Answer.*—The Wilson Ear Drum has been carefully investigated along with other devices for aiding hearing and is fully described in a booklet "Deafness Cures" prepared by the bureau of investigation of the American Medical Association. To any who are seeking hearing devices, it will be an advantage to have this pamphlet, so as to avoid wasting money and time in any of the numerous fakes that are advertised for this purpose. Many of them are described in this booklet.

### Facial Massage

*To the Editor:*—Does a facial massage take off flesh or is it helpful in eradicating wrinkles?

E. F. Mc., Connecticut.

*Answer.*—Facial massage may temporarily assist in preventing wrinkles but cannot permanently prevent their appearance.

### Tomatoes, Aluminum Vessels and Cancer

*To the Editor:*—I have heard quoted an old saying to the effect that tomato is the mother of cancer. Three or four years ago a home economics class in an Eastern college was instructed that tomatoes cooked in an aluminum utensil would promote the growth of cancer. Is there any truth in these suggestions?

L. S. H., Iowa.

*Answer.*—There is no evidence that tomatoes cooked in any kind of a vessel have any relation whatsoever to cancer.

### Raw or Pasteurized Milk

*To the Editor:*—Which is the more easily digested, raw or pasteurized milk? Which has the greater food value, including vitamins? Which is preferable for general household use?

H. E. G., Pennsylvania.

*Answer.*—Raw milk taken into the stomach clots into hard curds often resembling a lima bean in size and shape and of rubbery consistency. The adult can digest these curds; the infant cannot. Hence the appearance of these whitish beanlike curds in the stools of babies fed on raw milk. When the milk is pasteurized or boiled these curds do not form, so from the standpoint of digestion pasteurized milk is easier for the infant.

Raw milk may transmit a variety of diseases, if it comes in contact with a sick person during its long journey from the stable to the table in a distant city. Again, raw milk forms such good culture material, especially during hot weather, that if it is not kept cool it will contain as many germs as ordinary sewage. These germs may not be the germs of any definite disease, but they will spoil the milk and make the baby sick if he drinks much. So from the standpoint of germs unless the milk can be obtained in an absolutely fresh condition it is wiser to have it pasteurized or boiled, provided of course that the milk is kept cool and clean after these procedures.

From the standpoint of the vitamins raw milk is unquestionably better. This is true particularly for vitamin C, the one that protects

against scurvy. Babies fed on boiled milk will show the faintest suggestions of scurvy as early as the first month. This can be prevented, however, by the judicious use of orange juice or even tomato juice in teaspoon doses. According to present knowledge orange juice is somewhat more effective than tomato juice and so is preferable during the early months. For adults this vitamin is contained in so many articles of diet that at the American table there is no need to worry about any deficiency of this essential.

Unless milk can be obtained in an absolutely fresh condition and unless the consumer is well over infancy pasteurized milk is unquestionably the more advisable.

### Poison Ivy Antigen

*To the Editor:*—I have seen considerable suffering from poison ivy this year. A year or more ago I read an account of some new remedy. The medical profession generally does not seem to know of it. Could you send me information on the new discovery?

W. W. B., Connecticut.

*Answer.*—The treatment referred to is undoubtedly the poison ivy antigen. This preparation is recommended both for prophylaxis against and for treatment of inflammation of the skin following exposure to poison ivy. It is manufactured by several companies and can be easily procured by any druggist. Reports as to its efficiency vary considerably, but there have been many favorable reports as to the results obtained from its use.

### Near-Sightedness

*To the Editor:*—I have been wearing glasses for about six years and am now 19 years old. The trouble is that I am short-sighted. I have changed lenses twice in that six years, each time getting a stronger lens. At present I am attending college. My eyes, I believe, are growing more near-sighted each year. What would be the best thing to do to preserve my eyesight?

W. O. Oklahoma.

*Answer.*—Near-sightedness, or myopia, is a condition of the eyes in which near objects are distinctly seen while distant objects seem blurred or indistinct. It should receive careful attention by an eye specialist. This is particularly true when it develops in the years of childhood or adolescence for then it is frequently progressive, increasing from year to year sometimes to a dangerous degree.

Myopia frequently runs in families and the tendency to it is transmissible. The child who has inherited a tendency to myopia may in early life have normal eyes or even the opposite condition of far-sight, or hyperopia. Gradually the myopic condition develops, usually assisted by excessive near use of the eyes (for most myopes are inordinately fond of reading) and neglect of some of the simplest rules of hygiene.

Children or adolescents with myopia, or those suspected of it because of inability to see distant objects distinctly, should have the eyes examined by an expert ophthalmologist, preferably with the aid of drops for enlarging the pupils. The myopia, together with any astigmatism, should be fully corrected with glasses, care being taken not to overcorrect the condition, an error not so liable to occur if the test is made with drops in the eyes.

The patient with progressive myopia should wear the correcting glasses constantly for both distant and near vision. The myopic child or youth should avoid excessive reading, of which he is usually so fond, and should be encouraged to follow outdoor sports.

When reading or studying he should observe certain rules in regard to posture and lighting. He should sit erect and avoid holding the book or writing tablet too close to the eyes.

The light should fall over the shoulder to avoid glare and to give clear, even illumination of the page or the writing tablet, thus making it unnecessary to get the eyes too close to the work.

In the case of myopic children or youths the thorough examination of the eyes should be repeated in six months or at the latest in a year to determine whether the myopia has increased, and if so to change the glasses to correct it fully. Similar examinations should be made every six or twelve months until it is shown that the myopia has become stationary.

In growing children the general health should be carefully looked after and, if necessary, measures taken to improve the vitality and muscular tone. Myopic children are frequently inclined to sedentary diversions, and to avoid the more vigorous outdoor activities.

As to the inquirer who is now 19 years old, it is quite probable that his myopia is not advancing rapidly, for in six years during his adolescent period, he has had to change his glasses only twice, and he has nearly reached adult life, the time when most cases of myopia become stationary. However, this rule like most rules has frequent exceptions and he would do well to consult an experienced eye specialist, who after a thorough examination will be able to tell him the exact condition of his eyes, prescribe for him suitable glasses and instruct him in regard to the proper use of them.

### Thyroid Gland During Pregnancy

*To the Editor:*—Having had an exophthalmic goiter removed, would this condition recur during pregnancy?

W. H., Illinois.

*Answer.*—During pregnancy there is an increase in the activity of the thyroid gland. It would be possible for symptoms of exophthalmic goiter to show themselves slightly during pregnancy, even after the gland had been removed, because in this operation some of the gland is left and its activity might produce symptoms.

### Peroxide of Hydrogen; Tuberculosis

*To the Editor:*—1. Would the use of hydrogen peroxide, full strength, to bleach hair on the upper lip be harmful in any way? 2. In pulmonary tuberculosis what effect has the slight fever that comes when I exercise a great deal and for about ten days before menstruation? If I feel all right, why should I stop exercising? Is the cause of fever the result of poison from the lungs, which the body is unable to throw off? In the afternoon my average temperature is 99.2 F.

E. B., California.

*Answer.*—1. Use of peroxide of hydrogen on the upper lip is not likely to do harm. If the skin shows signs of irritation at any time, then its use may be discontinued for a while.

2. Fever in tuberculosis is an indication that the process is still active and in that stage of consumption rest is the most important item of treatment.

Whether in this case the fever is sufficient to indicate any very active process, and as a result exercise is bad for the patient, is something that the physician in charge should determine.

The fever is caused by the disease process that is going on in the lungs.

### Quartz Light

*To the Editor:*—Are quartz light treatments beneficial for acne? Must the light be strong enough to burn before a cure can be effected? Could there be any ill effects from a severe burn?

E. E., Ohio.

*Answer.*—The quartz light is being widely exploited at the present time and is being used by a large number of physicians for various disorders, in many of which the results are rather disappointing. However, it is of value in certain conditions.

In some cases of acne improvement follows its use, while in others no appreciable benefit is seen. The treatment should be given only by those who have had sufficient training, so as to avoid severe burn. A moderate redness of the skin usually results from the treatment. Care should be taken to avoid a severe burn as permanent injury to the skin may result.

Quartz or ultraviolet light is a useful auxiliary agent in treating a number of skin disorders but seldom is sufficient to produce curative effects without the addition of local treatment.

### Syphilis

*To the Editor:*—Would you please inform me whether or not any cases of hereditary syphilis of more than twenty years' standing have ever benefited by treatment. I understand that none ever have. Is it likely that a second series of treatments would produce results if the first did not? Is ultraviolet ray treatment ever used?

L. Y., Ohio.

*Answer.*—Syphilis has been treated with good results in cases of long standing; many years, indeed, after the primary infection. It is true, on the other hand, that a great many cases of syphilis of the nervous system do not yield to treatment. Whether or not treatment in the particular case cited has promise of good results could only be determined by a physician who has examined the patient and is thoroughly familiar with the case. The ultraviolet ray is not in our judgment giving any results that are worth while in syphilis.

### Tuberculosis

*To the Editor:*—After a tuberculous patient has become 15 or 20 pounds above normal weight, does she still need a quart of whole milk a day? How many eggs? Should she diet to keep from gaining more flesh. About how much flesh does a patient lose when getting out of bed from a prolonged rest? The patient has shown improvement in all active symptoms (cough, appetite, sweats, weakness and tiredness), except temperature. We do not understand why the temperature does not decrease. She still has temperature from 99.4 to 99.8 F. Is this natural? Should the patient use her arms for combing the hair, reaching to the bed table and similar activities?

L. L. M., Tennessee.

*Answer.*—Forced feeding in tuberculosis is no longer considered proper. It would seem that a patient who has gained 15 or 20 pounds over the normal weight has been overfed. Overfeeding may seriously derange digestion. Eggs and milk are a good diet if the patient desires to eat and drink them, not, as a rule, otherwise. A mere excess of weight in a tuberculous patient does not necessarily mean actual improvement in the general condition. Dieting as a means to reduce weight is likely to do more harm than good, because few patients who diet know when to stop it.

Loss of flesh depends on the amount of exercise the patient takes. If the appetite remains satisfactory, the loss of weight will take care of itself.

Evidently the patient has not made satisfactory improvement, if the symptoms enumerated are still present. Temperature will not decrease until the cause has been entirely removed; i. e., activity of the focus of infection. The disease in the case cited would seem to be still active, and the patient should remain in bed.

Exercise should be reduced to a minimum, when the patient is in the condition described. Such slight acts as reaching to the table will not be likely to do any damage, but some one else should handle the hair.

### Enlarged Veins and Pregnancy

*To the Editor:*—When many of the smaller veins show in groups under the knees and along the thigh, also a few on the abdomen, would this condition be more aggravated during pregnancy? Some of the arteries are becoming more prominent. Would this condition mean varicose veins during and after pregnancy?

G. F., Maine.

*Answer.*—An increase in the size of the veins both of the legs and of the abdomen is common in pregnancy, because of the pressure that the enlarged uterus exercises on the veins in the pelvis. This enlargement of the veins usually diminishes entirely or in part after the birth of the child.

### Spastic Paralysis

*To the Editor:*—Some time ago I noticed a dispatch from London stating that Drs. Kulchitsky, Smith and Woolard of University College had conducted experiments and observations seeking a cure for paralysis by operating on certain nerves and that they were progressing satisfactorily. I should like to know if anything has appeared in the literature recently relating to this subject and if so would you kindly give me references to the articles.

H. W., Colorado.

*Answer.*—The only experiments about which information could be obtained were originated by Royle and Hunter; they did a sympathectomy (surgical removal of a part of a sympathetic nerve) in order to improve certain spasticities resulting from paralysis of cerebral origin. Their article appeared in *Surgery, Gynecology and Obstetrics*, in the December, 1924, issue. We have no knowledge of any other operation on certain nerves that is of value.

Any other improvements of deformities resulting from such paralyses have been made only through orthopedic measures. While a great deal has appeared in literature of the value, pro and con, of sympathectomy in the treatment of spastic paralyses, opinion is still divided as to any permanent value resulting therefrom.

### Hemorrhoids

*To the Editor:*—I am afflicted with hemorrhoids. Is an operation for their removal considered a major operation requiring a couple of weeks' stay in hospital and consequent heavy expense? Are they generally removed by cutting or are they burned off? Is an anesthetic used? In view of the fact that more veins are likely to become varicose after an operation, would it not be advisable to wait until more veins were involved and one operation would be all that would be necessary, as it is in a comparatively mild stage at present?

C. R. Mc., Ohio.

*Answer.*—The operation for hemorrhoids is often done by capable physicians in their offices, under local anesthetic, the patient being taken home after the operation and usually remaining quiet for a few days. There is, however, always a possibility of meeting some complication in this operation and the safe way is to have it done in the hospital. Whether a local or a general anesthetic is preferable in a particular case is best advised by the physician in charge. It is the physician who must determine whether the hemorrhoids are in such condition and are giving such trouble as to demand operation.

It would be unwise to wait until the hemorrhoids have become large, as it makes the operation much less certain in its result if the dilatation of the veins is extreme.

### Hotel Sanitation

*To the Editor:*—Is it necessary to disinfect toilet seats and bath tubs in a hotel?

S. H., Indiana.

*Answer.*—The danger of acquiring any disease from toilet seats is not great, but is sufficient to warrant care in their use and even to warrant disinfection. This is especially true for women.